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Recommendations of the Polish Society of Allergology on the qualification of people with allergies and anaphylaxis for vaccination against COVID-19

A snapshot from the history of the Military Institute of Medicine: Development of the Internal Medicine Department from 1945 to the establishment of the Internal Medicine Institute in 1974.

CDR Stanley W. Raczek, MD US Navy - Initiator of the Polish-American Partnership in Military Psychiatry, 1993-2008

Case report of secondary resistance to omalizumab in difficult allergic asthma

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Erratum

In A. Florkowski's article "100th anniversary of military psychiatric therapy", published in issue 2020; 98 (4), the captions under Figures 11 and 12 were switched. The caption below Fig. 11 should be under Fig. 12 and vice versa.

The caption below Fig. 12 also contains a mistake: the year "1994" instead of "1993".

For many years, "Military Physician" has been indexed in the Polish Medical Bibliography (Polska Bibliografia Lekarska), the oldest Polish bibliographic database.

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GUIDELINES FOR MANUSCRIPT SUBMISSION

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2. Before publication, each article is reviewed by 2 independent reviewers while maintaining anonymity.

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3. An original publication may also have the form of a short temporary report.

4. Materials for printing

1) Text (with references, tables and figure captions) should be uploaded as a separate file. One page of the manuscript should contain 30 lines, about 60 characters each (must be about 1,800 characters). The text must be written in Times New Roman 12 point font and double spaced (this also applies to references, tables, captions etc.), with 2.5 cm left margin, and no right margin, i.e. with the 'flag'. Authors are asked not to format the titles, i.e., not to centre or justify them, as well as not to use the tabulator or automatic numbering (both within the text and references). A new paragraph should be started from the left margin without paragraph indentation. Please do not insert blank lines between paragraphs or enumerations. From typefaces, bold (semi-bold) and italics for foreign phrases may be used.

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1) On the first page: main title in Polish and English, Author's or Authors' (max. 10 people) first and last names, including academic degrees, full name of affiliated institute (institutes), head of the institute (academic degree, first and last name), below an abstract (up to 15 lines) with keywords in Polish and another abstract with keywords in English, corresponding author, his/her postal address with postal code, telephone (fax) and e-mail address.

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Original articles should be prepared according to the following structure: introduction, aim, material and methods, results, discussion, conclusions, references; case reports: introduction, case description, discussion, summary (conclusions), and references.

Abbreviations and acronyms should be defined when first mentioned in the text and consequently used in the paper.

3) References should be presented according to the order they appear in the text. If the article has no more than four authors, all of them should be named, if there are more – a maximum of first three, followed by "et al.". References should be numbered using the keyboard, please do not use automatic numbering. Examples of citations:

Journal articles:

Calpin C, Macarthur C, Stephens D, et al. Effectiveness of prophylactic inhaled steroids in childhood asthma: a systemic review of the literature. J Allergy Clin Immunol, 1997; 100: 452 ± -457

Books:

Rudzki E. Alergia na leki: z uwzględnieniem odczynów anafilaktycznych i idiosynkrazji [Drug allergy: including anaphylactic reactions and idiosyncrasy]. Czelej Publishing House, Lublin 2002: 338-340;

Chapter of a book:

Wantz GE. Groin hernia. In: Cameron JJ, ed. Current surgical therapy. St Louis, Mosby, 1998:557-561

The list of references should include only those publications that were used by the Author and should be reduced to 20. All references should be cited in the text and the numbers of references should be put in square brackets. In order to avoid errors, titles should be copied from medical databases.

7. The paper should be accompanied by: a) author's request to publish the paper with a declaration that the article has not been published before and not simultaneously submitted to any other journal b) approval of the head of the clinic, head of the department or head of the institute in which the research has been conducted, and in case of a study carried out in several centres - approval of all of them, c) Declaration of Conflict of Interest, d) acknowledgements, if applicable.

8. The Editorial Board reserves the right to correct nomenclature and stylistic errors as well as to introduce abbreviations without consultation with the Author.

9. The Author receives 1 free copy of the issue in which his or her article has been published. For further copies, contact the Editor.

10. If the manuscript is not accepted for publication, the Editorial Board will return the submitted article to the Author.

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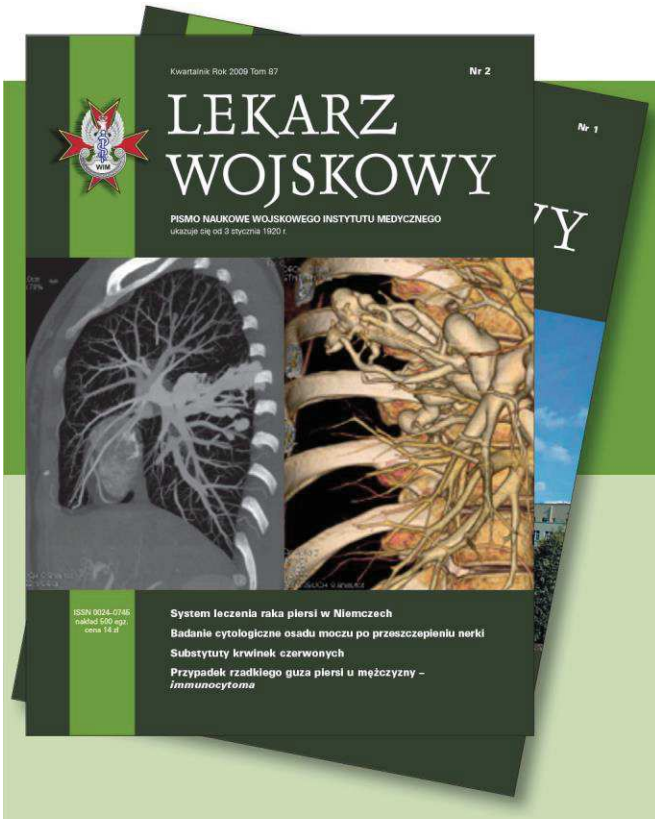

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PRACE ORYGINALNE

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HISTORIA MEDYCYNY I WOJSKOWEJ SŁUŻY ZDROWIA

COVID-19 vaccination in four clicks

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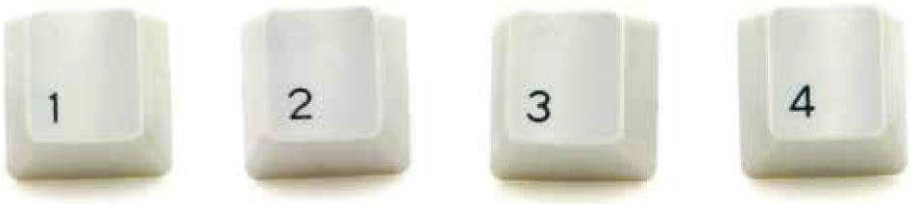

Recommendations of the Polish Society of Allergology on the qualification of people with allergies and anaphylaxis for vaccination against COVID-19

Rekomendacje Polskiego Towarzystwa Alergologicznego dotyczące kwalifikacji osób z alergią i anafilaksją do szczepienia przeciw COVID-19

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Abstract The recommendations are presented of the Polish Society of Allergology regarding the qualification of people with allergies and anaphylaxis for vaccination against COVID -19, both for non-allergologists qualifying for vaccination against COVID -19, and for allergologists consulting patients with a history of anaphylaxis or severe (uncontrolled) allergic diseases and asthma vaccinated against COVID -19.
Key words: anaphylaxis, COVID -19 vaccination

Streszczenie Przedstawiono Rekomendacje Polskiego Towarzystwa Alergologicznego dotyczące kwalifikacji osób z alergią i anafilaksją do szczepienia przeciw COVID -19, zarówno dla lekarzy kwalifikujących do szczepień przeciw COVID -19 niebędących alergologami, jak i dla alergologów konsultujących pacjentów z przebytą anafilaksją w wywiadzie lub z ciężkim (niekontrolowanym) przebiegiem chorób alergicznych i astmy, szczepionych przeciw COVID -19.
Słowa kluczowe: anafilaksja, szczepienia przeciw COVID -19

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Part I

For non-allergist physicians who determine eligibility for COVID-19 vaccinations

Recommendations

1. All COVID-19 vaccinations should be performed at sites where first aid can be provided in case of severe immediate hypersensitivity reaction (anaphylaxis) due to the vaccination. A physician may decide to extend the observation period.
2. Every vaccinated patient should be monitored at the vaccination site for at least 15 minutes following the vaccination.
3. IgE-mediated allergic diseases (allergic rhinitis, asthma, atopic dermatitis, food allergies) in the asymptomatic phase or when well-controlled are not contraindications for COVID-19 vaccination.
4. Patients with non-IgE-mediated reactions, e.g. vasovagal reaction, organic reactions other than systemic or other non-specific symptoms following the first dose of COVID-19 vaccine, may receive the second dose at any vaccination site.
5. Patients with a localised urticarial skin reaction (wheals or angioedema limited to the injection site), but without any general systemic symptoms following the first dose of COVID-19 vaccine, may receive the second dose at a vaccination site that provides special medical care (see p. 7), and in such cases the post-vaccination observation period should be extended to 30 minutes.
6. Patients with a history of severe hypersensitivity reaction (non-allergic or allergic anaphylaxis) to drugs, food or physical factors should consult an allergist before the vaccination.
7. If the allergist decides that there is a significant risk of hypersensitivity reaction and recommends special safety measures during the vaccination, it is absolutely necessary to check whether the following are available at the vaccination site:
   - resuscitation materials and equipment,
   - adrenaline (Adrenaline WZF 0.1% ampoules) and intravenous fluids (500 ml containers of 0.9% NaCl solution)
   and:
   - provide intravenous access,
   - verify the possibility of transporting the patient to HED.
8. If after 30 minutes following the vaccination the patient is well, they may leave the vaccination site.
9. If any of the mentioned symptoms of generalised reaction or pruritus of large skin areas, urticaria, oedema, palpitations (tachycardia), dyspnoea, nausea or abdominal pain, decreased blood pressure (weakness, dizziness, confusion) occur, the patient should be diagnosed with a systemic anaphylactic reaction.
   In such case, proper treatment should be initiated, involving intramuscular adrenaline injection (0.5 ml of Adrenaline WZF 0.1%) and administration of intravenous fluids (500 ml of 0.9% NaCl) when indicated, following the guidelines for anaphylactic shock management. Moreover, within 30 minutes from the symptom onset, 5 ml of venous blood should be drawn, centrifuged, and the serum should be sent to a laboratory for tryptase concentration testing. Even if the symptoms subside completely, the patient should be transferred immediately to the nearest hospital (HED) for further, 12-24-hour observation under hospital conditions. After such an episode the patient should be advised to consult an allergist as planned.

Part II

For allergists consulting patients with a history of anaphylaxis or severe (uncontrolled) course of allergic diseases and asthma, vaccinated for COVID-19

Recommendations

1. There is no basis for consultations with an allergist before the administration of COVID-19 vaccine in patients who do not have a history of severe systemic hypersensitivity reaction.
2. Patients who previously had episodes of anaphylaxis should be referred by non-allergist physicians qualifying for COVID-19 vaccination to consult an allergist with appropriate experience and diagnostic tools, in order to determine whether such person can receive a COVID-19 vaccine.

In such cases the allergists must estimate the risk of severe hypersensitivity reaction following the vaccination.

3. The risk is increased in patient who experienced anaphylaxis due to the administration of drugs, consumption of foods, contact with physical factors and other unspecified situations (idiopathic anaphylaxis) and in people with previous hypersensitivity reactions following any vaccination.

4. Regarding currently used vaccines:
   - Comirnaty by Pfizer/BioNTech - it is believed that in this case hypersensitivity is mainly caused by polyethylene glycol (PEG, also known as macrogol); it may be a complement activation-related allergic reaction;
   - COVID-19 Vaccine by Moderna - the causative factors may be PEG and trometamol (also known as tromethamine);
   - COVID-19 Vaccine by AstraZeneca - the causative factor may be polysorbate 80 (polyoxyethylene sorbitan monooleate, E433).

   Other future vaccinations may contain other ingredients with potentially allergising effects.
5. A structured history of previous anaphylaxis episodes may help in estimating the risk of hypersensitivity reaction following a vaccination.
   - Episodes of IgE-mediated anaphylaxis to foods, insect venom or airborne allergens does not increase the risk of an anaphylactic reaction after COVID-19 vaccination.
   - Episodes of idiopathic anaphylaxis, anaphylaxis to many drugs containing macrogols (the name of ethylene polyglycols preferred in pharmacy), such as oral antibiotics, mainly penicillins, oral analgesics, laxatives, injectable glucocorticosteroids, oncological medications (PEG-Asparaginase), as well as occurrence of localised skin reactions to numerous cosmetic products or chemical agents may increase the risk of anaphylaxis following a COVID-19 vaccination. These patients should not be qualified for vaccination with Comirnaty by Pfizer BioNTech or COVID-19 Vaccine by Moderna, as they contain PEG. It should be noted that the COVID-19 Vaccine by AstraZeneca that could be an alternative product, contains polysorbate 80, a derivative of PEG, potentially causing a cross reaction.
   - Episodes of anaphylaxis to substances containing PEG or cross-reacting with PEG (including polysorbate 80 in the COVID-19 Vaccine by AstraZeneca), as well as anaphylactic reaction to the first dose of the vaccine are associated with a very high risk of hypersensitivity reaction following a subsequent dose of COVID-19 vaccine. These patients should not receive a second dose.
6. If the consulting allergist has significant doubts regarding qualification for vaccination or administration of a second dose of the vaccine, they may refer the patient to an Allergology Clinics that can provide an opinion of a group of doctors, including a vaccinologist, on:
   - disqualification from vaccination or delay of vaccination
   or
   - qualification for vaccination conditional upon circumstances in which the vaccination can be carried out, the type of vaccine and the administration method.
7. It should be emphasised that the majority of the reported immediate severe hypersensitivity reactions following COVID-19 vaccination are non-allergic, and occur without the involvement of the immune system. Therefore, well-controlled allergic diseases, such as allergic asthma, allergic rhinitis and conjunctivitis, atopic dermatitis, IgE-mediated food allergy, allergy to insect venom, allergic contact eczema, as well as a history of urticaria or skin drug reactions are not contraindications for the vaccination against COVID-19.
8. The only absolute contraindication for the administration of presently available COVID-19 vaccines (Comirnaty, Pfizer BioNTech, COVID-19 Vaccine, Moderna and COVID-19 Vaccine, AstraZeneca), mentioned in the registration document, is hypersensitivity to any of their components. However, patients usually are not aware if they are hypersensitive to vaccine ingredients, and allergists have very limited options to detect non-allergic hypersensitivity. Thus, the main goal of the information in the registration documents is to prevent the administration of a second dose of the vaccine to a patient who experienced a hypersensitivity reaction during the first administration. Such situation justifies the decision to refrain from the administration of a second dose of the vaccine, and does not require any additional tests to confirm hypersensitivity to vaccine ingredients. However, finding an alternative vaccine without the component suspected of causing the reaction may be difficult.
9. As the risk of hypersensitivity reaction following the administration of COVID-19 vaccine is increased in any patient with a history of anaphylactic reaction, especially if the cause is unknown or if the episodes of anaphylaxis were recurrent, individualised safety measures should be recommended for these patients, including vaccination in hospitals, where immediate and specialist treatment of anaphylaxis can be provided, prophylactic intravenous access before the vaccination or extension of the observation period to 30 minutes following the administration of the vaccine.
10. If the factor inducing hypersensitivity in the context of COVID-19 vaccination must be determined, skin tests may be performed (prick tests or intradermal tests) using the vaccine as the most suspicious and available factor, similar to the tests for drug hypersensitivity. Scientific studies are conducted on the use of other skin tests with PEG (macrogols), polysorbate 800 or trometamol (tromethamine), or

laboratory tests (BAT test with a vaccine or PEG) which can potentially be used in the future. If the skin test using a vaccine is negative, testing for hypersensitivity to latex and chlorhexidine may be considered.

11. Apart from providing an opinion (certificate) on qualification for or disqualification from vaccination, allergist should document the consultation properly and explain the final decision to the patient (attachment 3).

12. In patients undergoing specific subcutaneous immunotherapy with and allergenic vaccine, a two-week interval should be maintained before the administration of a COVID-19 vaccine.

Patients receiving biological therapies for allergic diseases should be vaccinated against COVID-19 in the middle of the interval between the doses of the biologic drug.

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Persistent diarrhoea associated with ovarian cancer

Uporczywa biegunka w przebiegu raka jajnika

Marta Wiśniewska, Janusz Rudziński, Paweł Gordon

Gastroenterology Unit, Department of Internal Diseases, 10th Military Clinical Hospital with Polyclinic at the Independent Public Healthcare Centre in Bydgoszcz; unit coordinator: Reserve Lt. COL Janusz Rudziński MD, PhD

Abstract Chronic diarrhoea is a common complication of cancer or chemotherapy. It is rare as the only symptom of neoplastic disease, and depending on its aetiology and the mechanism of its formation, may be osmotic, secretory, fatty, inflammatory and associated with accelerated intestinal transit. In the discussed case, the most common disease states leading to the destruction of the mucosa of the small intestine were excluded. The cause of diarrhoea in the patient was determined only after an autopsy. Secretive neoplastic disease should be taken into account in the differentiation of chronic diarrhoea.
Key words: atrophy of the intestinal villi, diarrhoea, ovarian cancer

Streszczenie Przewlekła biegunka jest częstym powikłaniem choroby nowotworowej lub chemioterapii. Jako jedyny objaw choroby nowotworowej występuje rzadko i zależnie od etiologii i mechanizmu powstawania może mieć charakter biegunki osmotycznej, sekrecyjnej, tłuszczowej, zapalnej oraz związanej z przyspieszonym pasażem jelitowym. W omawianym przypadku wykluczono najczęstsze stany chorobowe prowadzące do destrukcji błony śluzowej jelita cienkiego. Przyczynę biegunki u chorej ustalono dopiero w badaniu sekcyjnym. W różnicowaniu przewlekłej biegunki należy uwzględnić skrycie przebiegającą chorobę nowotworową.
Słowa kluczowe: zanik kosmków jelitowych, biegunka, rak jajnika

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Case study

A 72-year-old patient was admitted to the Gastroenterology Unit due to the occurrence of loose stools, persisting for approximately 6 months (up to 7-10/day), vomiting with feculent after taste, loss of appetite, progressing body weight loss and abdominal cramping pain refractory to conservative treatment. Due to an electrolyte imbalance, the patient was treated several times at hospital emergency departments. She had a history of left-sided hemicolectomy performed 20 years before due to sigmoid colon cancer, followed by chemotherapy and radiation therapy. During the current hospital admission, apart from dehydration, the radiographic images presented distension of the intestinal loops up to 67 mm in diameter, with fluid content. The abdominal ultrasound demonstrated fluid in the spaces between the intestinal loops, and no other abnormalities.

Laboratory tests revealed hypokalaemia, low concentration of total protein, albumins, iron, phosphates and calcium, as well as low TSH syndrome. An infective origin of the diarrhoea was excluded based on the results of stool tests, including the test for the toxigenic *Clostridium difficile* strain. Gastroscopy demonstrated signs of erythematous-exudative gastropathy. Endoscopic examination did not reveal any lesions in the large intestine. The specimens collected from the colon during a colonoscopy did not confirm any signs of microscopic colitis or non-specific colitis.

Computed tomography of the abdomen demonstrated poor folding of the small intestine, with segmental wall thickening up to 5 mm, a visible oedema of the submucosal layer with strengthening of the mucosal layer, slightly enlarged mesenteric vessels and a small quantity of fluid in the smaller pelvis (Fig. 1).

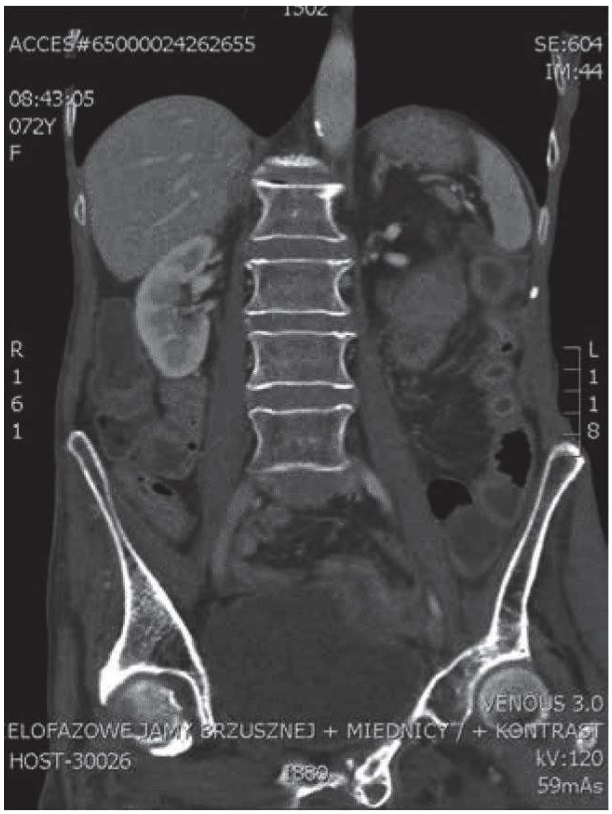

Figure 1. Abdominal tomography examination: visible swelling of submucosa and strengthening of the small intestine mucosa

Rycina 1. Badanie TK jamy brzusznej: widoczny obrzęk warstwy podśluzowej i wzmacniająca się warstwa śluzowa jelita cienkiego

The MRI images confirmed distension of the small intestinal loop with fluid content and segmental stenosis at the caecum (Fig. 2). A transvaginal ultrasound did not reveal any lesions in the reproductive organ. As the tomographic images and MRI scans of the abdomen suggested inflammatory lesions in the small intestine, the panendoscopic study, including collection of samples from the caecum, was repeated. The histopathological examination demonstrated a complete villous atrophy, and the IEL (intraepithelial lymphocytes) index was reduced to 5/100. In order to correct the electrolyte and protein imbalance, parenteral nutrition was introduced, and initially was well-tolerated.

Despite the empirical treatment and substitution therapy, the patient's status continued to deteriorate. After two weeks of hospitalisation symptoms of pneumonia and retention in the pulmonary circulation developed. Following the introduction of antibiotic treatment, after initial improvement in the inflammatory parameters, the patient developed a fully-symptomatic paralytic ileus. On the 30th day of hospitalisation, the patient experienced a haemorrhage from the respiratory and gastrointestinal mucosa, resulting in uncompensated hypovolaemic shock and death.

Figure 2. Magnetic resonance imaging of abdominal cavity: distended small intestine loops with fluid levels

Rycina 2. Badanie MR jamy brzusznej: uwidocznione rozdęte pętle jelita cienkiego z poziomami płynów

The autopsy did not reveal the primary cause of death. The histopathological analysis of samples collected from various organs confirmed a diffused neoplastic disease originating in the right ovary (G3).

Discussion

The main problem the patient presented was persistent, refractory diarrhoea associated with electrolyte imbalance. The imaging diagnostics, i.e. abdominal ultrasound, transvaginal ultrasound, CT and MRI, did not explain the cause of the diarrhoea. A histopathological examination of the samples from the small intestine did not reveal any signs of celiac disease, Whipple disease or Crohn's disease. As the origin of diarrhoea was non-infective, it could be a distant complication of the left-sided hemicolectomy with subsequent chemotherapy and radiation therapy due to the sigmoid colon cancer [1-3].

Considering the clinical course and test results, it may be assumed that the impaired absorption and secretion of water and electrolytes in the gastrointestinal tract was caused by the generalised atrophy of the intestinal villi.

In the course of neoplastic diseases, paraneoplastic syndromes occur, defined as a set of symptoms from different tissues and organs, unrelated to the organ originally affected by the neoplasm [4-5]. It is assumed that endocrine or autoimmune abnormalities play an important role in the development of this syndrome. The villous atrophy observed in the patient could result from a juxtaposition of various disorders. There have been

reports in the subject literature of mucosal atrophy in the small intestine as a late post-radiation reaction following radiation therapy of the large intestine [5-6]. These problems typically occur during treatment. Superficial ulceration, mucosal teleangiectasias, intestinal narrowing and fibrosis, up to necrosis of the organ wall can be observed. These lesions are visible in endoscopic tests, and do not raise any doubts regarding their cause, especially if they occur shortly after the irradiation [4]. However, there are reports of distant intestinal complications developing up to several dozen years after the radiation therapy [6]. Those lesions occurring after 8-12 months are considered chronic, and may be more pronounced than in the acute form [4].

In the presented case, the total intestinal villous atrophy responsible for the persistent diarrhoea was a symptom associated with a hidden neoplastic disease. During the clinical observation we were not able to determine whether it was a symptom of paraneoplastic syndrome or a potential late complication of the radiation therapy of the abdominal cavity due to the colonic cancer.

A hidden neoplastic disease should be taken into consideration in a differential diagnosis of prolonged, non-infective, refractory diarrhoea.

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Secondary resistance to omalizumab in difficult allergic asthma - a case report

Wtórny brak odpowiedzi na omalizumab w leczeniu ciężkiej astmy alergicznej - opis przypadku

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Abstract Omalizumab is a monoclonal antibody against immunoglobulin E and it has been used in the treatment of difficult allergic asthma for many years now. Its effectiveness has been reported in numerous clinical trials. However, despite many observations of patients receiving omalizumab, the optimal time of treatment has yet to be established. Current conclusions are that the therapy should last as long as possible. There are also scarce reports on any lack of response to omalizumab after withdrawal and re-starting the drug. This case report concerns a patient whose asthma control significantly deteriorated after omalizumab withdrawal.
However, the drug re-administration led to no improvement, despite the original good response to omalizumab.

Streszczenie Omalizumab, monoklonalne przeciwciało skierowane przeciwko immunoglobulinie E, od wielu lat jest stosowany w leczeniu ciężkiej astmy alergicznej. Jego skuteczność potwierdzono w wielu badaniach. Dotychczas jednak nie ustalono optymalnego czasu takiego leczenia, pomimo wielu obserwacji pacjentów otrzymujących ten lek. Dotychczasowe wnioski prowadzą do zalecenia, by terapia trwała możliwie jak najdłużej. Niewiele jest również doniesień na temat braku odpowiedzi na lek po powtórnym jego włączeniu po próbie odstawienia. W pracy przedstawiono opis przypadku pacjentki, u której po odstawieniu omalizumabu doszło do istotnego pogorszenia kontroli astmy, jednak jego ponowne włączenie nie przyniosło poprawy, pomimo pierwotnej dobrej odpowiedzi na lek.
Słowa kluczowe: ciężka astma, omalizumab, immunoglobulina IgE, program lekowy, odpowiedź na leczenie

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Introduction

Omalizumab is a monoclonal antibody against immunoglobulin E that binds with the Cε3 domain of the heavy chain, creating an IgE - anti-IgE complex. Therefore, it prevents IgE binding to specific receptors on effector cells, thus inhibiting or weakening an allergic reaction [1, 3]. However, this is not the only mechanism of action of omalizumab. The drug also accelerates the dissociation of IgE-FcεRI and IgE-CD23 complexes on the surface of mast cells [2, 4], as well as probably reducing IgE production by B cells. However, further research into the latter mechanism is required [2, 5]. The effectiveness of omalizumab in the treatment of severe allergic asthma has been demonstrated in many studies, and the drug has been included in GINA as a recommended therapeutic option if the disease is uncontrolled at steps 4-5 of the treatment [6].

A good tolerance of omalizumab has been demonstrated; the incidence of adverse effects is comparable with that of a placebo [7, 8, 11].

However, the optimum duration of omalizumab therapy has not been determined.

The conclusions from several studies suggest that longer rather than shorter treatment is preferable (approx. 5 years), and that the decision to discontinue therapy should be taken on an individual basis, considering the previous course of asthma in the patient and his/her

response to the treatment [8,12,13,15]. In the presented studies a longer duration of therapy determined a longer period of good asthma control after the discontinuation. Severe exacerbations were much more frequent and the time to their occurrence was shorter in patients who used omalizumab for shorter periods [9, 10, 15]. It was also demonstrated that the quality of response to the drug is important for effectiveness of the therapy, expressed as the degree of asthma control (e.g. using Global Effectiveness Treatment Evaluation [GETE]) which correlated positively with the chances of maintaining this effect after drug discontinuation [15]. Previous observations demonstrate that, in most, patients discontinuation of omalizumab is associated with a significant exacerbation of asthma, prompting re-introduction of the therapy [14-17, 19].

Case study

This is a case study of a female patient treated at the Allergology and Immunology Clinic, Military Institute of Medicine in Warsaw. The patient, currently 66 years old, was diagnosed with bronchial asthma at 35 years old. The disease onset was sudden; the patient, previously healthy, experienced a severe attack of dyspnoea, requiring hospitalisation. During her stay at the Department of Internal Diseases and Pneumonology of the Military Institute of Medicine in Warsaw she was diagnosed with bronchial asthma, and inhalation medications and systemic glucocorticoids (GC) were introduced. Further diagnostics revealed increased levels of total IgE, and the results of skin prick tests were positive for dust mites, mould and cat fur. Despite the introduction of complete inhalation treatment with high doses of GC, LABA, LAMA and SABA, satisfactory control of the asthma was not achieved. Frequent exacerbations were observed, requiring numerous interventions of the Emergency Medical Services, hospitalisations and intensive treatment involving the administration of systemic GC - the patient received betamethasone injections, and, periodically, high doses of oral prednisone. Due to asthma exacerbations, the patient experienced two episodes of complete respiratory failure that required intubation and mechanical ventilation. The course of asthma was so severe that systemic GC could not be discontinued, with the attempts to reduce the dose to < 20 mg of prednisone leading to exacerbations. In the year 2004, 21 interventions of the Emergency Medical services and hospitalisations were necessary due to attacks of dyspnoea. After several years of systemic steroid therapy, she developed numerous complications associated with the treatment, including diabetes that required oral treatment and insulin therapy, arterial hypertension, increased vascular fragility that virtually prevented the collection of blood samples for tests or intravenous administration of drugs (a vascular access port had to be placed on the subclavicular artery) and obesity, for which the patient received a bariatric procedure in 2005. During the treatment the patient was diagnosed with depression and sleep disorder, which required pharmacotherapy. The patient has been struggling with addiction to benzodiazepines.

In 2007, during hospitalisation at the Department of Internal Diseases and Pneumonology at the Military Institute of Medicine, the patient received omalizumab. Unfortunately, due to the very high costs of the therapy, the drug was not administered regularly and the patient received it only during periods of disease exacerbation. Probably this explains why a significant improvement was not observed at that time. When omalizumab therapy became available to patients with severe allergic asthma in Poland as part of a drug programme financed by the National Health Fund, the patient was immediately qualified for the treatment. She met all the inclusion criteria and no exclusion criteria were found [18].

At the moment of qualification for the programme, her scores in the questionnaires of asthma control and quality of life were as follows: Asthma Control Questionnaire (ACQ) 3.4 points; Mini Asthma Quality of Life Questionnaire (MiniAQLQ) 2.0 points. The IgE level was 548 j./ml. Spirometry revealed moderate obstruction (FEV_1/FVC 0.65 pC, FEV_1 70% of the predicted value). The patient's body weight at that time was 62 kg.

The omalizumab dose established based on the body weight and total IgE was 375 mg every 2 weeks in subcutaneous injections. The patient received the first dose in May 2013. The drug was well-tolerated and no adverse reactions were observed after the administration. The reaction to the treatment assessed after 16 weeks of omalizumab therapy was assessed as "good" based on the GETE score. The control of asthma improved considerably: the number of exacerbations decreased and a small reduction of oral GC was possible. In the next year of treatment, the GC doses were further reduced, with the minimum dose of prednisone that provided asthma control being 10 mg/day. In the following years of therapy, the control of asthma was maintained at a stable level, with a visibly limited number of exacerbations per year and a significant improvement in the patient's well-being. The systemic GC could not be discontinued, but their dose was reduced.

The dose of omalizumab was increased due to the body weight gain (initially to 450 mg, then to 600 mg).

In March 2018, following a new provision in the drug programme [18], the omalizumab therapy was suspended. The patient remained under the care of the Allergology and Immunology Clinic at the Military Institute of Medicine and, at regular intervals (every 4-6 weeks)

she had outpatient visits involving a physical examination and interview regarding asthma control and quality of life, as well as an assessment of spirometry parameters.

Following the discontinuation of omalizumab, the patient soon experienced (after 8 weeks) a severe exacerbation of asthma. The dose of oral GC was increased to 40 mg of prednisone/day and the inhalation therapy was intensified. Periodically, oxygen was administered via a home oxygen concentrator.

Considering the complete clinical picture, omalizumab therapy was re-introduced at the previous dose of 600 mg every 2 weeks. Unfortunately, despite the treatment, no significant improvement was observed. After 12 weeks the dose of prednisone could not be reduced, the patient still experienced dyspnoea during even limited exercise (such as everyday home activities), and she also associated dyspnoea with air pollution. Due to the lack of response to omalizumab, the drug was discontinued, and the drug programme was closed.

After the required 6-month-interval between the biological therapy [18], the patient was qualified for a therapy with mepolizumab, as she met all the inclusion criteria for this programme. She remains in the programme (over 52 weeks), with the introduction of anti-Il-5 immunoglobulin resulting in the gradual stabilisation of the asthma and improved control of the disease.

Conclusions

During a 3-year observation study of patients who discontinued omalizumab, Nopp et al. [14] found that the majority of them did not require re-introduction of the treatment, and the course of asthma did not change compared to the period of therapy. Unfortunately, these findings are inconsistent with most studies. Molimard et al. [15] reported that in over half of the group of patients monitored after discontinuation of omalizumab, re-introduction of the therapy was necessary due to a loss of asthma control, and the percentage of patients requiring therapy reintroduction negatively correlated with the duration of treatment before the discontinuation. A British INNOVATE study provided data regarding the symptoms observed in patients and the changing levels of total IgE in the 16 week period from the discontinuation of biological therapy. The results in consecutive control points revealed a negative correlation between the serum concentration of a drug and the level of IgE, which was closely associated with asthma exacerbations and the recurrence of symptoms [16]. Similar conclusions were drawn from the XPORT study [9], in which 176 patients using omalizumab for at least 5 years were divided into two groups: the first one continued the treatment, and the other one received placebo. The observation was conducted for 1 year. A significantly higher rate of patients who continued the therapy maintained good control of asthma, compared to the placebo group (67.0% vs 47.7%). The results of studies conducted in Poland do not differ from those carried out in other countries.

At a site in Białystok, 5 patients were observed for 18 weeks after discontinuation of omalizumab. In 3 of them the spirometry parameters deteriorated, the need for inhalation drugs increased, and more unplanned medical visits were required due to loss of asthma control [17]. A study by Kupryś-Lipińska [19] offered similar conclusions. By 5 months after the discontinuation of omalizumab ,9 out of 11 patients experienced severe asthma exacerbation that prompted the investigators to reintroduce the therapy. Only one of the available studies provided a sufficiently long observation period to enable the assessment of the response to the drug after its re-introduction following a break. Molimard et al. [15] demonstrated that approximately 20% of patients who repeated the therapy due to loss of asthma control did not respond to the treatment, despite previous sensitivity to the drug. The investigators admit that due to lack of a control group in this part of the study it is impossible to determine whether these patients lost good response to therapy despite its continuation; however, the presented case of the patient of the Allergology Clinic seems to confirm this observation. In order to draw further conclusions and foresee such reactions, more research is required.

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Acromegaly and cardiovascular-respiratory diseases – an interdisciplinary problem

Akromegalia a choroby układu sercowo-naczyniowego i oddechowego - problem interdyscyplinarny

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Abstract Acromegaly is a chronic disease, occurring when significant functional and constitutional disorders of the body are caused by excessive secretion of growth hormone (GH) by a somatotroph pituitary adenoma. Long-term prognosis and quality of life in acromegaly are particularly influenced by cardiovascular and respiratory system disorders. Early diagnosis of a somatotroph pituitary tumour and in-depth morphological and function assessment of the cardiovascular and respiratory systems seem to be indispensable in stratifying the risk. Normalization of GH and/or IGF-1 secretion by complex surgical and/or pharmacological treatment reduces mortality and the risk of cardiovascular and respiratory complications. Therefore, the aim of this study was to present the complexity of clinical problems in acromegaly patients, who particularly require interdisciplinary treatment.
Key words: acromegaly, cardiovascular diseases, respiratory diseases

Streszczenie Akromegalia jest chorobą przewlekłą, w której pod wpływem nadmiernego wydzielania hormonu wzrostu (GH) przez gruczolaka somatotropowego przysadki dochodzi do istotnych zaburzeń funkcjonalnych i konstytucjonalnych całego ustroju. Na rokowanie odległe i jakość życia w akromegalii szczególny wpływ mają przede wszystkim zaburzenia układu krążenia i układu oddechowego. W stratyfikacji ryzyka niezbędne wydają się: wczesne rozpoznanie guza somatotropowego przysadki, a także dokładna ocena morfologiczna i czynnościowa układu krążenia oraz układu oddechowego. Normalizacja wydzielania GH i/lub insulinopodobnego czynnika wzrostu 1 (IGF-1) poprzez kompleksowe leczenie chirurgiczne i/lub farmakologiczne zmniejsza śmiertelność oraz ryzyko powikłań ze strony układu sercowo-naczyniowego i oddechowego. Dlatego też celem tej pracy było przedstawienie złożoności problemów klinicznych pacjentów z akromegalia, którzy w sposób szczególny wymagają opieki interdyscyplinarnej.
Słowa kluczowe: akromegalia, choroby układu sercowo-naczyniowego, choroby układu oddechowego

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Introduction

Acromegaly is a rare chronic disease in which, due to excessive concentration of the growth hormone, secreted in over 99% of cases by a somatotroph pituitary adenoma, not only morphological lesions occur but numerous systemic complications also develop, including structural and functional impairment of the cardiovascular or

respiratory system, which may adversely affect long-term prognosis and quality of life [1-3].

The incidence of acromegaly in the general population is estimated at approximately 60 cases per million people. The disease is found with a similar frequency in both sexes, most often in patients in their 40s and 50s. On average, acromegaly is diagnosed 5-10 years after the onset of the first symptoms. In Poland, it is estimated that approximately 2,000 people suffer from acromegaly. The average life expectancy in patients with untreated acromegaly is shortened by 10 years [3]. The mortality rates in patients with acromegaly have been demonstrated to be 2-3 times higher than in the general population, but in those with early detected and well-controlled disease (neurosurgical procedure and/or pharmacological treatment) the risk may be reduced almost completely [1-2].

The most frequent causes of death in the first decade following the diagnosis include cardiovascular diseases (44-60%), respiratory disorders (approx. 25%) and neoplastic diseases (28%). In the second decade of the disease, neoplastic conditions dominate (35%), without a significant effect of metabolic disorders [4-5].

The most common cardiovascular complications include secondary cardiomyopathy (90% of patients), resulting in diastolic and systolic left ventricular dysfunction and heart failure. Acromegaly is also associated with more frequent arterial hypertension (60% of patients), heart rhythm disorders, valvular defects and vascular endothelial dysfunction. The most common respiratory complications include sleep-disordered breathing, especially obstructive sleep apnoea [6].

Cardiovascular and respiratory complications in acromegaly are the principal causes of morbidity and premature mortality, and impaired glucose tolerance, insulin resistance and lipid disorders additionally increase the cardiovascular risk. Therefore, the pathogenesis of cardiovascular and respiratory complications in acromegaly is multifactorial [7].

Secondary cardiomyopathy in acromegaly

Secondary cardiomyopathy in patients with acromegaly is caused by the long-term exposure of the cardiac muscle to the excessive anabolic effects of GH and insulin-like growth factor 1 (IGF-1). It involves a concentric hypertrophy of both ventricles, especially of the left ventricular muscle (80%), resulting in diastolic dysfunction in 44% of patients, in the long-term perspective leading to progressive systolic dysfunction, and eventually, in approximately 10% of patients, contributing to heart failure [3, 7-9]. Cardiac hypertrophy correlates with the duration of acromegaly [10].

Currently, it is emphasised that the pathogenesis of acromegalic cardiomyopathy is multifactorial, and it includes the immediate effects of GH and IGF-1, as well as the intermediate mechanisms, triggered by the excessive GH and IGF-1 concentrations, which induce arterial hypertension and disturbed metabolism of glucose and lipids. As a result, glucotoxicity and lipotoxicity develop, with remodelling and hypertrophy of the cardiac muscle being observed [11]. The structural, functional and metabolic changes in the heart and peripheral vessels result from the direct effects of excessive GH and IGF-1 concentrations on their receptors on cardiomyocytes, as confirmed in animal and human models. The animal models also confirmed the effect of GH and IGF-1 on increased contractility of the cardiac muscle was also confirmed by stimulating cardiomyocytes to re-enter the cellular cycle, increasing their number and causing hypertrophy of the cardiac muscle [12]. Moreover, it has been demonstrated that IGF-1 is synthesised directly in cardiomyocytes [13]. A significant role of GH and IGF-1 is played in the development and maintenance of normal heart structure, regulation of cardiomyocyte apoptosis and their effect on the contractility of the cardiac muscle through trophic and positive inotropic effects on the cardiac muscle in people with normal GH and IGF-1 concentrations.

Histopathological analysis of autopsy specimens from patients with acromegaly reveals structural changes in the cardiac muscle, presenting as multifocal myocarditis due to apoptosis of cardiac myocytes. The most important abnormalities include cardiac myocyte hypertrophy, impaired function of contractile proteins, fibroblast proliferation, interstitial fibrosis, increased intracellular collagen deposition, impaired myofibrillar development, areas of cardiomyocyte fibrosis and lymphocytic infiltration, gradually disturbing the cardiac anatomy. These changes may affect the left as well as the right ventricle. They correlate with the degree of left ventricular functional impairment [14].

The pathogenesis of acromegalic cardiomyopathy includes three phases. In phase one, which is reversible, concentric hypertrophy of the cardiac muscle develops and cardiac contractility, heart rate and cardiac output increase, resulting in a hyperkinetic circulation. During phase two, in untreated patients or in those with uncontrolled disease, the cardiac hypertrophy progresses and signs of left ventricular diastolic dysfunction and exercise-induced systolic dysfunction develop [7]. During phase three, in untreated patients or in those with uncontrolled disease, after many years dilated cardiomyopathy with systolic dysfunction at rest and signs of heart failure develops. At that stage the heart damage is irreversible, even after the initiation of treatment of the primary disease [7-8, 11].

Although the left ventricular ejection fraction in acromegaly patients is normal at rest, subclinical left ventricular systolic dysfunction is associated with diastolic dysfunction already at early stages of the disease, and is characterised by reduced myocardial rates in tissue Doppler tests, and by lower left ventricular myocardial strain values and strain rates [15].

Left ventricular hypertrophy is common even in patients with short disease duration [16]. The incidence of heart failure in patients newly diagnosed with acromegaly is approximately 10% and often correlates with a slightly elevated concentration of N-terminal pro-brain natriuretic peptide (NT-proBNP) [17].

Comorbidities of acromegaly, i.e. arterial hypertension, valvular disorders, vascular endothelial dysfunction and impaired metabolism of glucose and lipids may accelerate the development of acromegalic cardiomyopathy and aggravate its course [3, 7-9].

Arterial hypertension in patients with acromegaly

Arterial hypertension is one of the most common cardiovascular diseases in patients with acromegaly. In clinical studies its incidence varies between 18-60% [18]. Arterial hypertension in acromegaly is an important predictor of premature death and it increases the progression of other cardiovascular complications, while the pathophysiological mechanisms behind it have not been fully explained [3, 7-8].

The pathogenesis of arterial hypertension in patients with acromegaly is multifactorial. The contributing factors include increased heart rate, increased stroke volume, and thus elevated cardiac output, increased left ventricular afterload, reduced perfusion pressure in the coronary arteries and impaired vascular endothelial function with increased peripheral vascular resistance [16, 19]. The importance of the direct effect of excessive GH and IGF-1 concentrations in the kidneys, due to its potential antidiuretic effect, also increases. Excessive GH and IGF-1 concentrations may indirectly cause increased renal sodium absorption and secondary water absorption, resulting in an increased plasma volume and higher sensitivity to angiotensin. Due to the effect of IGF-1, hypertrophy and fibrosis of the vascular smooth muscle develop, resulting in an increased peripheral resistance. Moreover, insulin resistance syndrome and hyperinsulinaemia associated with acromegaly may stimulate increased renal sodium retention and excessive activation of the sympathetic system [18,20-21]. Arterial hypertension in patients with acromegaly increases morphological and functional changes in the heart, accelerated the progression of cardiomyopathy and increases its incidence in young patients. The disease leads to dysfunction of the vascular endothelium and elevated peripheral resistance. These changes impair the haemodynamic conditions, elevating the cardiovascular risk.

The risk of arterial hypertension increases with the duration of the disease. It is also elevated by other factors, including concurrent obstructive sleep apnoea syndrome and disturbed carbohydrate metabolism (diabetes, impaired glucose tolerance, insulin resistance), which significantly increase systolic and diastolic arterial blood pressure. The role of GH in the regulation of daily arterial blood pressure profile in patients with arterial hypertension and acromegaly has not been sufficiently demonstrated [11].

Cardiac valvular defects

In patients with acromegaly, cardiac valvular defects are found more often than in the general population, especially mitral insufficiency (32-60%), aortic insufficiency (27-31%) and dilation of the ascending aorta [22-23]. Valvulopathy is a frequent sign of acromegalic cardiomyopathy; it is found in approximately 75% of patients at the time of diagnosis [22]. The pathogenesis of valvular defects has not been fully explained, and it appears to be multifactorial. It may involve extracellular matrix disorders and deposition of collagen and mucopolysaccharides in the cardiac valvular leaflets, contributing to leaflet degeneration, fibrosis, thickening and calcification, as well as valve regurgitation [24]. Valvular ring dilation in the course of prolonged cardiomyopathy contributes to valvular defects.

The most common valvular defects observed in acromegaly include mitral insufficiency and aortic insufficiency [22]. Moreover, in patients with acromegaly aortic ectasia was observed more often than in the control group. The aortic diameter correlated with the left ventricular mass, and patients with aortic ectasia demonstrated more significant hypertrophy of the left ventricular muscle compared to those without increased aortic diameters [23].

Heart rhythm disorders

Heart rhythm disorders are observed in 48% of patients newly diagnosed with acromegaly. They may be found in up to 90% of patients with concurrent acromegalic cardiomyopathy [25-26]. The pathogenesis of heart rhythm disorders has not been fully explained, and it appears to be multifactorial. It seems to be the effect of interstitial fibrosis, impaired myofibrillar structure and hypertrophy of the cardiac muscle. These changes contribute to remodelling of cardiac myocytes, which contribute to the rhythm and conductivity disorders [25]. Electric cardiac function disorders may be an early marker

of ventricular remodelling. Ventricular and supraventricular heart rhythm abnormalities, sinoatrial and atrioventricular blocks and QT-prolongation may predispose to life-threatening cardiac dysrhythmias and sudden cardiac death [27].

In 24-hour Holter ECG monitoring arrhythmia was observed in 89% of patients with acromegaly, despite the absence of clinical symptoms of arrhythmia. Individual ventricular contractions were reported in 71% of patients, pairs of ventricular contractions in 21% of patients, individual supraventricular contractions in 89% of patients, and pairs of supraventricular contractions in 39% of patients. Non-sustained ventricular tachycardia was observed in 11%, and non-sustained supraventricular tachycardia was found in 46% of patients [26]. The severity of complex ventricular dysrhythmias correlates with the left ventricular mass [8].

Ventricular late potentials in signal averaged electrocardiogram are also strong predictive factors [7]. It has been demonstrated that the analysis of the heart rhythm variability allows assessment of the sympathetic system and may provide a useful clinical tool for risk stratification in this group of patients [27-28].

Vascular disease

In patients with acromegaly vascular endothelial dysfunction leading to atherosclerosis in coronary and peripheral arteries is observed already at early stages of the disease. Previous studies demonstrate that the risk of ischaemic heart disease and acute coronary syndromes in patients where acromegaly is increased (11-20%), primarily due to more frequent presence of cardiovascular risk factors [29]. The most common vascular defect reported in acromegaly is vascular endothelial dysfunction, which - together with oxidative stress - is the main factor behind the development of atherosclerosis in this disease. In the animal model the impaired vascular endothelial function, due to increased oxidative stress, was attributed to excessive GH and IGF-1 concentrations [30]. In patients with significantly reduced acromegaly concentrations of nitrogen oxide and increased concentrations of endothelin 1, a biomarker of endothelial dysfunction, confirmed the predisposition for the development of atherosclerosis [31]. Vascular endothelial dysfunction in patients with acromegaly may be confirmed by the test of arterial dilation in response to ischaemia. Dilatation of the brachial artery in response to ischaemia in patients with acromegaly is visibly impaired compared to the control group [32]. In patients with the active disease, increased aortic rigidity was also reported, and capillaroscopy in the group of patients demonstrated a significantly reduced number and length of capillaries, as well as a considerably higher number of tortuous loops and meandering capillaries, compared to the control group [33].

Except for the data regarding vascular endothelial dysfunction and remodelling and dysfunction of the microcirculation vessels, other markers of atherosclerosis in acromegaly are not definitive. Some studies confirm increased intima-media thickness in the carotid artery, while other researchers report a comparable thickness of the tunica media in the carotid artery in patients with acromegaly and in the control group, as well as lack of difference regarding the presence of well-defined atherosclerotic plaques [34-35]. Therefore, it appears that the risk of atherosclerosis in acromegaly is determined by the coincidence of various classical and non-classical cardiovascular risk factors, and not merely by the direct exposure to abnormal concentrations of GH and IGF-1. The classical risk factors for ischaemic heart disease include insulin resistance syndrome, impaired metabolism of lipids, arterial hypertension and acromegalic cardiomyopathy. Obstructive sleep apnoea, increased activity of plasminogen activator inhibitor and elevated concentrations of lipoprotein (a), fibrinogen and homocysteine should be considered non-classical risk factors, strongly related with acromegaly [36].

Insulin resistance syndrome

Insulin resistance and hyperinsulinaemia (80% of patients) are often observed in acromegaly. They may lead to the development of type 2 diabetes, cardiovascular complications and respiratory disorders during sleep, as well as to elevation of systolic and diastolic arterial blood pressure [37]. Glucose metabolism disorders are the main risk factor for increased mortality due to cardiovascular diseases.

Disorders due to impaired metabolism of carbohydrates include diabetes, impaired glucose tolerance (IGT) and impaired fasting glucose (IFG) [5, 7]. Their prevalence varies; in the studies cited it was 19-56% for diabetes, 6-45% for IGT and 7-22% for IFG [7, 38].

Diabetes in patients with acromegaly develops quite early: over 20% of untreated patients may suffer from secondary diabetes at the time of diagnosis. The pathogenesis of insulin resistance is multifactorial. The direct activity of GH is associated with its diabetogenic effect, due to the promotion of lipolysis and induction of insulin resistance, whereas its indirect effect, through elevated IGF-1 secretion, may increase insulin production. GH has a lipolytic effect, as it induces hydrolysis of triglycerides, with production of free fatty acids from the fatty tissue [7, 39]. Increased production of free fatty acids is one of the principal factors responsible for the development of insulin resistance. GH-induced insulin resistance is believed to be the primary mechanism responsible for impaired glucose metabolism

in patients with acromegaly, although abnormal function of the pancreatic beta cells and impaired insulin secretion are additional factors [39]. GH-dependent gluconeogenesis in the liver, resulting in increased glucose production, significantly contributes to impaired glucose tolerance and the development of glucose metabolism disorders. However, impaired glucose metabolism in acromegaly is primarily associated not with hormone concentrations, but - similarly to the general population - with increased body mass index, age and family history of diabetes. It has also been observed that women with acromegaly are more susceptible to insulin resistance than men suffering from this condition [38, 40].

Lipid metabolism disorders

Acromegaly causes lipid metabolism disorders, mainly hypertriglyceridaemia and reduced concentrations of high-density lipoproteins (HDL) [6-7]. Reduced HDL levels are found in 33-40% of patients, and hypertriglyceridaemia in 39-47% of patients, and it is most pronounced in post-menopausal women. The prevalence of hypercholesterolaemia is comparable to that observed in the general population [7, 41]. Acromegaly is also associated with abnormalities in the metabolism of lipoproteins, especially concentrations of circulating apolipoproteins (Apo A-I, Apo E, Apo B), participating in the transportation of triglycerides and cholesterol, as well as with increased concentrations of low-density lipoproteins (LDL), probably due to insulin resistance. LDL, which contain apolipoprotein B, play the main role in the development of atherosclerosis. Where the endothelium is damaged, its permeability for LDL is increased, and the retention of LDL in the tunica intima is higher [42].

GH affects the metabolism of lipids directly and indirectly. Excess of GH induces lipolysis, resulting in an increased release of free fatty acids from the fatty tissue, thus contributing to the development of insulin resistance. Excessive concentration of GH may also directly reduce the activity of lipoprotein lipase, leading to increased concentration of circulating triglycerides. Reduced concentrations of HDL cholesterol appear to be associated with excessive quantity of IGF-1. Hypertriglyceridaemia in acromegaly is not associated with body weight, GH concentration or glycaemia, but with compensatory hyperinsulinaemia. HDL cholesterol concentration seems to be associated with IGF-1 concentration and sex [7, 43].

Respiratory disorders

Respiratory disorders are the second most common group of complications in patients with acromegaly. Respiratory symptoms are consequences of GH-induced anatomical and functional changes in the respiratory tract, and include: sleep-disordered breathing and respiratory failure [7].

The prevalence of sleep-disordered breathing in patients with acromegaly is estimated at approximately 10-81%, and respiratory failure at approximately 30-80% [6,44-45]. Sleep-disordered breathing observed in patients with acromegaly may present as obstructive sleep apnoea, central sleep apnoea (including Cheyne-Stokes breathing pattern) and mixed disorders. Due to anatomical changes in the upper respiratory tract in the course of acromegaly, sleep-disordered breathing in these patients typically takes the form of obstructive apnoea (in approximately 2/3 of patients). However, in some acromegaly patients with concurrent sleep apnoea syndrome central apnoea dominates (approximately 1/3 of patients) [46].

Sleep-disordered breathing directly causes exacerbation of cardiovascular symptoms, predisposes to coronary disease, heart rhythm disorders, arterial hypertension and contributes to 25% of deaths [6-7].

The pathophysiological mechanisms associated with sleep-disordered breathing cause chronic impairment of the cardiovascular function. The heart and vascular system do not undergo the physiological relaxation during sleep, but function in the state of stimulation due to excessive sympathetic activation and hypoxia [47].

The disorders of the GH-somatostatin axis impair the regulation of the respiratory centre, reduce the sensitivity of the respiratory centre to hypoxia, lead to central apnoea due to increased reactivity of the respiratory tract and increased ventilatory response to hypercapnia [48]. Untreated, long-term obstructive respiratory disorders, due to the development of refractory arterial hypertension, may cause heart failure and become an independent increased risk factor for death.

Other adverse cardiac consequences of sleep-disordered breathing include excessive sympathetic activation, heart rate irregularities (bradycardia or pauses during apnoea with subsequent tachycardia after waking up), heart rhythm disorders, reduced variability of the sinus rhythm, increased left ventricular dysfunction, increased thrombotic risk, impaired control of baroreflexes, recurrent hypoxia and increased risk of cardiovascular events [47].

The activity and duration of the disease, advanced age, neck circumference and male sex were determined to be independent predictors of sleep apnoea syndrome in acromegaly. Anatomical changes in the craniofacial bones and soft tissues, including lingual oedema, changes in the mucosa and cartilage of the respiratory tract, changes in the lung volume and thoracic geometry (including changes in the muscle structure), reduced lung elasticity and increased pulmonary resistance are all components contributing to the development of

respiratory complications associated with acromegaly. These complications are attributed to the direct effects of GH and IGF-1.

In patients with acromegaly, respiratory efficiency is rarely assessed, although up to 30-80% of them may suffer from respiratory failure [45, 47].

Prevention and treatment of cardiovascular and respiratory diseases

Prevention of cardiovascular and respiratory complications, as well as early diagnosis and treatment of the primary disease and its comorbidities, are crucial for the improvement of prognosis in patients with acromegaly [1, 5-6]. Detailed evaluation of the cardiovascular and respiratory systems at the time of acromegaly diagnosis is recommended, as well as active treatment of associated comorbidities, especially arterial hypertension, acromegalic cardiomyopathy, glucose intolerance and sleep apnoea.

Therapy of cardiovascular complications and sleep-disordered breathing considerably contribute to the improvement of the clinical status and prognosis in acromegaly patients [1,6]. Reduction of the classical and non-classical cardiovascular and respiratory risk factors is intended to improve the quality of life and limit mortality in this group of patients [3, 5].

Treatment of comorbidities in acromegaly patients should be introduced already at the time of diagnosis, in order to prevent excessive mortality. The treatment of choice in acromegaly is neurosurgical therapy, and complementary pharmacological treatment, e.g. using somatostatin analogues or GH receptor antagonists, is introduced if remission has not been achieved.

Early diagnosis and introduction of treatment are of utmost importance for good prognosis in patients with acromegaly. Normalisation of GH and/or IGF-1 plasma levels due to surgical and/or pharmacological management reduces mortality due to cardiovascular diseases [1].

Numerous studies confirm that therapy with somatostatin analogues is associated with a considerable improvement of the morphological and functional cardiac haemodynamic parameters: reduction of the heart rate, left ventricular mass index and interventricular septal thickness, reduced development of cardiomyopathy, improvement of the left ventricular ejection fraction, improved exercise tolerance and reduction of the systolic and diastolic blood pressure [41,49-50]. Following pharmacological treatment with 1st generation somatostatin analogues, biochemical parameters also improve: glycaemia, insulin concentration and glycosylated haemoglobin are reduced. Therapy with somatostatin analogues in acromegaly also demonstrates positive effects on heart rhythm disorders, including reduction of ventricular arrhythmias, as well as on the heart conduction system and cardiac rhythm variability [51-52].

Surgical treatment of acromegaly patients may also induce a significant improvement regarding the haemodynamic and metabolic risk factors. It has been demonstrated that effective neurosurgical procedure improves the control of arterial hypertension, reduces hypertrophy of the cardiac muscle, reduces the diastolic and systolic left ventricular dysfunction, and decreases endothelial dysfunction [53].

It appears that combined treatment of acromegaly (neurosurgery and pharmacological therapy) provides the best long-term effects, and allows better achievement of haemodynamic and biochemical control [1]. It has been demonstrated that surgical and/or pharmacological treatment using somatostatin analogues or GH receptor antagonists (pegvisomant) improves the structure and function of the cardiac muscle and reduces the damage to the peripheral vessels [3, 7-8, 53-55].

Neurosurgical treatment in acromegaly improves the metabolism of glucose and reduces the incidence of diabetes, while the reported effects of pharmacological therapy on the metabolism of glucose varied [53, 56]. Following surgery, insulin secretion improved, and in 23-58% of patients previously diagnosed with diabetes the disease resolved [53].

The control of acromegaly due to a surgery of pharmacotherapy also improves the metabolism of lipids. A significant reduction of triglyceride concentrations and increased concentration of HDL cholesterol were observed in patients treated surgically and pharmacologically; however, hypertriglyceridaemia and reduced HDL concentrations persisted in 12.4% and 24% of patients, respectively, despite the control of the disease [7].

Treatment of sleep-disordered breathing in patients with acromegaly includes surgical and/or pharmacological therapy, as well as the use of ventilatory support: continuous positive airway pressure (CPAP) and bilevel positive airway pressure (BIPAP). Laryngological procedures appeared not to be effective in the treatment of obstructive sleep apnoea in this group of patients. Comprehensive therapy of acromegaly also enhances the quality of life of patients and reduces the intensity of the symptoms of sleep apnoea syndrome [36, 57]. Studies have demonstrated that pharmacological treatment of acromegaly resulting in biochemical control leads to reduction of soft tissue oedema, reduction of sensitivity to hypoxia, and resolution of the symptoms of sleep apnoea at 6 months of therapy. Pharmacotherapy using somatostatin analogues or GH receptor antagonists reduces the frequency of sleep apnoea in approximately

50% of patients [58]. After 6 months of therapy with lanreotide, sleep apnoea resolved in approximately 61% of patients [57]. Also in the cohort of patients treated for 6 months with pegvisomant, the indicators of sleep apnoea improved [58]. It is unclear whether somatostatin analogues also demonstrate direct effect on central sleep apnoea [59].

Some authors report very high effectiveness of surgical treatment of obstructive apnoea, whereas according to others it is only 10%. In all cases using a device that restores normal breathing during sleep (CPAP) may be beneficial for the improvement of patient's status, quality of life and reduction of the cost of treatment due to cardiovascular diseases [60].

Conclusions

Uncontrolled acromegaly, due to long-term exposure of tissue to excessive concentrations of growth hormone and insulin-like growth factor may be associated with increased frequency of significant disorders in the morphology and function of the cardiovascular system and significant respiratory disorders.

Early diagnosis and introduction of treatment of acromegaly in order to achieve a high level of biochemical control

form the best strategy for reducing the development of cardiovascular and respiratory complications. Acromegaly patients require treatment and care by interdisciplinary teams, with the use of advanced diagnostic tools that allow the identification of general systemic complications already at the subclinical stage.

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A snapshot from the history of the Military Institute of Medicine: development of the Internal Medicine Department from 1945 to the establishment of the Internal Medicine Institute in 1974.

Kartka z historii Wojskowego Instytutu Medycznego. Rozwój klinik chorób wewnętrznych od 1945 r. do powstania Instytutu Medycyny Wewnętrznej w 1974 r.

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Abstract The article concerns the operations of the military internal medicine departments in post-war Warsaw. The timeframe spans from 1945, the year when internal departments of the two Warsaw-based military hospitals, i.e. District Hospital no. 1 and the Ministry of National Defence Hospital commenced their operations, to 1st November 1974, when the Military Medical Academy Postgraduate Training Center Internal Medicine Institute (currently the Military Institute of Medicine) was established. Among the heads of the wards we could find outstanding clinicians and scientists, e.g. professors: Mieczysław Fejgin, Mieczysław Kędra, Dymitr Aleksandrów, Wanda Wysznacka-Aleksandrow, Zofia Wańkowicz, Sylwester Czaplicki and Andrzej Dąbrowski. Many of them were Polish pioneers in modern diagnostic and treatment methods. Along with health services and scientific activities, also carried out were postgraduate training for physicians, dentists and pharmacists in the military health services.
Key words: 20th century history of medicine, military hospitals - history, military medicine - history

Streszczenie Artykuł dotyczy funkcjonowania oddziałów wojskowej medycyny wewnętrznej w powojennej Warszawie. Za ramy czasowe przyjęto okres od roku 1945, w którym rozpoczęły pracę oddziały wewnętrzne w zorganizowanych w Warszawie dwóch szpitalach wojskowych: Szpitalu Okręgowym nr 1 oraz Szpitalu Ministerstwa Obrony Narodowej, do 1 listopada 1974 r., daty utworzenia Instytutu Medycyny Wewnętrznej Centrum Kształcenia Podyplomowego Wojskowej Akademii Medycznej (obecnie Wojskowy Instytut Medyczny). Kierownikami oddziałów byli wybitni lekarze klinicyści, naukowcy, a wśród nich profesorowie: Mieczysław Fejgin, Mieczysław Kędra, Dymitr Aleksandrów, Wanda Wysznacka-Aleksandrow, Zofia Wańkowicz, Sylwester Czaplicki i Andrzej Dąbrowski. Wielu z nich, jako pierwsi w kraju, wprowadzało nowoczesne metody diagnostyki i terapii. Równolegle z udzielaniem świadczeń zdrowotnych i działalnością naukową prowadzono kształcenie podyplomowe lekarzy, stomatologów oraz farmaceutów wojskowej służby zdrowia.
Słowa kluczowe: szpitale wojskowe - historia, medycyna wojskowa - historia, historia medycyny XX wieku

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Introduction

The Institute of Internal Medicine was established on 1st November 1974, as part of the new organizational structure at the Military Medical Academy in Łódź, created in 1958 on the basis of the Military Centre of Medical Education, Central Clinical Hospital in Łódź and Central Hospital of the Ministry of National Defence in Warsaw (today's Military Institute of Medicine). The latter was then renamed the 2nd Central Clinical Hospital of the Military Academy of Medicine (2nd CSK WAM).

The Institute of Internal Medicine was based upon the tradition of the Chair and Department of Internal Diseases at the 2nd CSK WAM and the Chair and 2nd Department of Internal Diseases.

The Chair and Department of Internal Diseases at the 2nd CSK WAM was formed in October 1958, combining two internal department of the Central Hospital of the Ministry of National Defence, run by renowned Polish researchers and clinicians: COL Prof. Mieczysław Fejgin (Fig. 1) and COL Prof. Mieczysław Kędra (Fig. 2).

Figure 1. COL Professor Mieczysław Fejgin (from: Czaplicki S. Płk w st. spocz. prof. dr med. hab. Mieczysław Fejgin [1894-1975]. Wspomnienie pośmiertne [Prof. Wiktor Arkin, MD PhD. Posthumous memoirs]. Mil. Phys., 1975; 7: 6)
Rycina 1. Płk prof. Mieczysław Fejgin (źródło: Czaplicki S. Płk w st. spocz. prof. dr med. hab. Mieczysław Fejgin [1894-1975]. Wspomnienie pośmiertne [Prof. Wiktor Arkin, MD PhD. Posthumous memoirs]. Mil. Phys., 1975; 7: 6)

Internal Medicine Wards in the Hospital of the Ministry of National Defence

The history of the Internal Medicine Ward began on 10th October 1945 in Warsaw, at 78 Koszykowa Street, where the Hospital of the Ministry of National Defence was located. The hospital had six wards: surgery, internal medicine, neurology, laryngology, gynaecology and obstetrics, as well as a neonatological unit. The head of the Internal Medicine Ward was Maj. Mieczysław Fejgin MD, PhD. In 1952, the hospital was transformed into the Central Hospital of the Ministry of National Defence and its tasks were extended to include research activities. The hospital became the key facility of military health care; the number of employees was increased and new positions were created, e.g. scientific supervisors of units. The management of the Internal Medicine Ward was assigned to Prof. Fejgin, whose contribution to the development of military internal medicine was invaluable. In 1952, Assistant Prof. Mieczysław Kędra MD, PhD was employed at the ward and in 1953 he took the place of Prof. Fejgin as the scientific research supervisor. The wards used two modern devices in the electrocardiography laboratory. In the autumn of 1954, ballistocardiographic and piezoarteriographic studies were introduced, with the results being published by Prof. Kędra and Sylwester Czaplicki PhD (later a professor and Commandant of the Military Medical Academy Postgraduate Training Centre (CKP WAM)), in the same year *Military Physician* published the article "Value of combined electro- and piezoarteriographic tests in the diagnosis of atherosclerosis"[1] [1].

Under the supervision of Prof. Kędra, the analytical, haematological and gastrological laboratories were established. The equipment in these laboratories allowed the extension of the scope of the analytical, haematological, biochemical, serological and bacteriological tests it offered. The laboratory performed, apart from complete blood count, hepatic, renal and adrenal function tests [1, 2].

The science and research profile of the wards comprised the mechanisms of cardiovascular regulation, functional cardiac disorders, diagnostics of the causes of arterial hypertension using isotope tests of the urinary tract and studies on pyelonephritis and glomerular nephritis. Professor Fejgin developed his own method of functional cardiovascular efficiency testing: a test of cardiovascular response to water drinking, described in the study "A few notes on the procedure and interpretation of cardiovascular response to the water drinking test", published in 1952 in *Polski Tygodnik Lekarski* [*Polish*

[1] Kędra M., Czaplicki S. Wartość sprzężonych badań elektro-, balisto- i piezoarteriograficznych w rozpoznawaniu miażdżycy [Value of combined electro- and piezoarteriographic tests in the diagnosis of atherosclerosis] Mil. Phys., 1955; 31 (11): 1060-1072

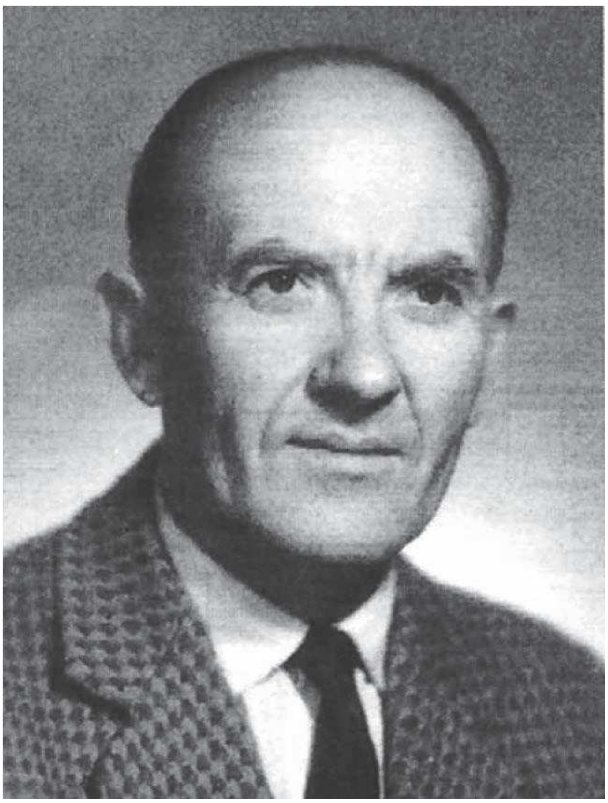


Figure 2. COL Professor Mieczysław Kędra (from: Markiewicz M. Nauczyciele przyszłych lekarzy. Lublin 2019: 54)
Rycina 2. Płk prof. Mieczysław Kędra (źródło: Markiewicz M. Nauczyciele przyszłych lekarzy. Lublin 2019: 54

Physician's Weekly] journal[2]. The research work also included the problems of renal and gastric diseases, rheumatological disorders, including rheumatoid arthritis and their treatment. In close collaboration with the Surgical Ward, run by Prof. Władysław Zagórski, the problems of diagnosis and differentiation of gastric, duodenal, biliary and pancreatic diseases were explored, with surgical recommendations for these conditions being developed [1, 3].

The results of the studies conducted provided valuable material for the preparation of scientific publications.

In 1955, "Clinical drafts from the Internal Medicine Ward of the Hospital of the Ministry of National Defence, 25 case reports from the Internal Medicine Ward of the Ministry of National Defence in the years 1945-1955", as selected by M. Fejgin, were published[3].

Figure 3. COL Professor Stanisław Bober (from: WIM archive)
Rycina 3. Płk prof. Stanisław Bober (źródło: archiwum WIM)

Chair and Department of Internal Diseases

In 1958, following the inclusion of the Central Hospital of the Ministry of National Defence into the structures of the Military Medical Academy, based on the Internal Medicine Wards, the Chair and Department of Internal Diseases was formed. Stanisław Bober MD, PhD became the scientific supervisor of the Department (Fig. 3). The Department implemented new tasks regarding scientific and research work.

Under the new management, the scientific studies begun by Prof. Bober's predecessors was continued, but the change in the unit's status required a number of new activities.

The most important achievements of Professor Bober included the creation of an analytical laboratory and a biochemical laboratory at the department, run by Dariusz Kruze MD, PhD, MSc in chemistry, and later by Janina Iwańska MSc. The main task of the laboratory was to test the composition and quantity of amino acids in various body fluids. The new and unique technology of two-dimensional column-paper chromatography was used in the tests. The haematology laboratory obtained a state-of-the-art microscope with numerous accessories that enabled taking micrographs, cinematographic pictures, analysis of live cultures on a heated table or projections of the studied image on a screen [4].

In the following years, studies were undertaken concerning blood disorders and conserved blood. The supervisor developed the polycardiology laboratory and created and equipped a pulmonology laboratory, which helped to improve the diagnostics of respiratory diseases

[2] Fejgin M. Kilka uwag w sprawie istoty i interpretacji próby wodno-sercowej [A few notes on the procedure and interpretation of the cardiovascular response to the water drinking test] Pol Tyg Lek, 1952; 35: 1060-1063

[3] Fejgin M, ed. Clinical drafts from the Internal Medicine Ward of the Hospital of the Ministry of National Defence, 25 case reports from the Internal Medicine Ward of the Ministry of National Defence in the years 1945-1955. Wydawnictwo MON publishing house, Warsaw 1955: 277.

due to the introduction of functional tests. The use of aerosols in the therapy of respiratory diseases was introduced at the department. Collaboration with the Radiobiology Institute began in order to improve the diagnostics of hepatic and biliary diseases with the use of isotopes [1, 5].

Archives for the medical records were organized following scientific principles, in order to collect and prepare the material for further research, and a department library was established.

Educational activities formed one of the major issues for the head of the department, as there was a shortage of personnel able to conduct training in internal medicine for military physicians. The professor involved his assistants in the educational process, assigning a field of internal medicine to each of them, for which they were responsible. As a response to this new challenge, the assistants had to extend their knowledge and skills, learn new diagnostic and therapeutic methods and become familiar with the subject literature. They presented the information regarding their respective fields of internal medicine during weekly scientific-clinical meetings. This was the origin of the literature reviews printed in *Military Physician*. This deeper knowledge of different problems of internal medicine resulted in numerous articles written by the physicians working at the department and published in scientific journals, as well as in doctoral theses and scientific degrees. From 1959, three-month-long training courses were organized in internal medicine for physicians specialising in this field, as well as in general medicine, haematology and cardiology. In 1966, Prof. Bober reported in *Military Physician*: "(...) so far, 13 three-month-long training courses have been conducted, including 10 in general internal medicine, one in cardiology, and one in electrocardiography for surgeons. Moreover, six courses for residents have been organized, each of them lasting six months" [1].

Twenty-five physicians received a PhD degree.

The department comprised two Internal Medicine Wards, run by Assistant Prof. Bolesław Złotnicki MD, PhD (who left the department on 15/05/1959), COL Assistant Prof. Aleksander Dawidowicz MD, PhD (up to 8/06/1963), replaced by Eugeniusz Kisieliński MD (up to 1966), COL Konstanty Jacyna MD, PhD (up to 1/07/1964) and Zdzisław Tyszkiewicz MD (up to 2/01/1967).

Until the reorganization of the Department in 1964, the deputy head of the unit was Lt. COL Sylwester Czaplicki MD, PhD. The position of adjunct professor was held by: Romuald Dąbrowa, Jan Jaranowski, Dariusz Kruze; the assistant researchers included: Hanna Barańska-Pawłowska, Andrzej Dąbrowski, Jerzy Farner, Jan Gietka, Januariusz Jarczewski, Dionizy Juska, Krzysztof Konopka, Zenon Krzakowski, Dorota Kuźmińska, Henryk Miśkiewicz, Helena Najmowicz, Zenon Okrzeja, Włodzimierz Rogatko, Ewa Skrzypczyk-Sulimowicz and Janina Iwańska MSc, Danuta Zimniak Msc and Ewa Zadrożyńska MSc. The department received support from volunteer physicians.

The Polycardiography Laboratory was run by Lt. COL Sylwester Czaplicki MD, PhD, and from 1964 by Andrzej Dąbrowski MD; the Haematology Laboratory was headed by COL Jan Jaranowski MD, PhD.

In 1962, specialist internal medicine offices, run by the physicians employed at the department, were established at the Polyclinic, offering services in cardiology, nephrology, rheumatology, endocrinology, gastrology and haematology. The department also established a Cardiology Centre at the Military Sanatorium in Ciechocinek, comprising 15 beds and intended primarily for patients following myocardial infarction. The centre became an additional research facility [5, 6].

Following the reorganization of the 2nd CSK MON in 1964, as a result of moving the main location of the hospital to the new buildings at 128 Szaserów Street in Warsaw, most of the departments and institutes were also moved from Koszykowa Street, and Military District Hospital No. 1 in Warsaw was incorporated into the institution. The hospital complex at 78 Koszykowa Street continued as an affiliate of the 2nd CSK WAM. The Chair and Department of Internal Diseases now included one unit, the head of which became COL Eugeniusz Kisieliński MD, PhD, and after his demise, the position was held by COL Zdzisław Tyszkiewicz MD, PhD. The Chair and 2nd Department of Internal Diseases, run by COL Prof. Dymitr Aleksandrow MD, PhD (future general and commandant of the institute), was formed at 128 Szaserów Street (Fig. 4).

The history of the Chair and Department of Internal Diseases is closely associated with Prof. Stanisław Bober MD, PhD. He died on 7th June 1970 due to, incurable at that time, heart disease. Following the order of the Chief of the General Staff of the Polish Army of 20th September 1971, the Chair and Department of Internal Diseases was re-named the 5th Clinical Department of Internal Diseases of the Postgraduate Training Institute, and was moved to the building complex at 128 Szaserów Street. COL Assistant Prof. Zdzisław Tyszkiewicz MD, PhD became the head of this institution. In 1974, the department was incorporated into the structures of the Institute of Internal Medicine.

Prof. Bober compiled the department publications since 1958 in a special publication "List of studies of the research team and collaborators of the Chair and 1st Department of Internal Diseases of the 2nd Central Clinical Hospital of the Military Medical Academy in Warsaw, conducted from October 1958 to September 1964", published in 1965. The list comprised 321 titles, including 227 articles. The publication summarising the

Figure 4. Brig. Gen. Professor Dymitr Aleksandrow (from: WIM archive)
Rycina 4. Gen. bryg. prof. Dymitr Aleksandrow (źródło: archiwum WIM)

development of the Department in the years 1958-1967 mentioned 317 articles that had been published in medical journals, e.g. in *Polski Tygodnik Lekarski* [*Polish Physician's Weekly*], *Wiadomości Lekarskie* [*Medical News*], *Reumatologia Polska* [*Polish Rheumatology*], *Biuletyn Informacyjny* [*Information Bulletin*] and *Lekarz Wojskowy* [*Military Physician*]. In the chapter on published books, 26 titles were listed, including:

- Bober S, Grzęda W, Krotkiewski A, Namysłowska I. Uboczne działanie antybiotyków [Side effects of antibiotics]. PZWL, Warsaw 1961;
- Dawidowicz A. O chorobach tarczycy [Diseases of the thyroid]. PZWL, Warsaw 1960;
- Bober S. Elektrokardiografia praktyczna [Practical electrocardiography]. PZWL, Warsaw 1962;
- Bober S., Czaplicki S. Graficzne metody badania układu krążenia [Graphic methods for testing of the cardiovascular system]. PZWL, Warsaw 1963.

Internal medicine wards at Military District Hospital No. 1 in Warsaw

The District Hospital No. 1 (in 1947 re-named Military District Hospital No. 1) was created during the war. On 6th February 1945, an order was issued to form six district hospitals, and one of them was to be established in Warsaw. The hospital was located in the buildings of the former Nursing School on Koszykowa Street, but due to the decision to organise another hospital for officers, it was moved to the buildings on Nowowiejska Street. On 28th April, the Internal Medicine Department run by Maj. Józef Willoch MD began functioning [7].

In the years 1945-1964, Military District Hospital No.1 had 2 Internal Medicine Wards and an observational department, which later also played the role of a department for hepatitis patients. In the first decade of its functioning, the institution had a lung tuberculosis department.

In the years 1945-1964, the department's heads were: COL Prof. Andrzej Himmel, COL Prof. Stanisław Bober, COL Edward Górka MD, COL Michał Latkowsk MD and COL Bolesław Syrocki MD. From 1958, the position of Scientific Supervisor was held by COL Zbigniew Psarski MD, PhD, future Assistant Professor and head of the 4th Department of Internal Diseases. The daily clinical work was supported by Prof. Walenty Hartwig, a specialist in internal medicine, endocrinologist, employed as a regular consultant, whereas in case of infectious diseases, Prof. Bertold Kassur was consulted [1]. Following the organizational changes, most employees formed the personnel of the Chair and 2nd Department of Internal Diseases.

Chair and 2nd Department of Internal Diseases

The Chair and 2nd Department of Internal Diseases started work on 21st September 1964.

Four Clinical Wards were included in the department. Their heads were future professors and heads of departments:

- 1st Ward – Assistant Prof. Wanda Wysznacka-Aleksandrow MD, PhD (Fig. 5);
- 2nd Ward – COL Konstanty Jacyna MD, PhD (Fig. 6);
- 3rd Ward – COL Sylwester Czaplicki MD, PhD (Fig. 7);
- 4th Ward – COL Zbigniew Psarski MD, PhD (Fig. 8).

In the same year, six specialist offices were established in the outpatient clinic, offering services in rheumatology, cardiology, gastrology, pulmonology, endocrinology and tropical diseases. The department conducted studies into the diagnostics and therapy in acute life threats due to internal causes, on the pathogenesis and prevention of myocardial infarction and on the diagnostics of treatable causes of arterial hypertension. Other issues explored by the researchers included pancreatic disorders, causes and the course of ulceration in officers and the aetiology of pneumonia in compulsory service soldiers.

Figure 5. Prof Wanda Wysznacka-Aleksandrow (from: WIM archive)
Rycina 5. Prof. Wanda Wysznacka-Aleksandrow (źródło: archiwum WIM)

Figure 6. COL Konstanty Jacyna, MD, PhD (from: WIM archive)
Rycina 6. Płk dr hab. med. Konstanty Jacyna (źródło: archiwum WIM)

The department, regarding both its scientific and clinical work, was supported by its own laboratories: clinical biochemistry, cardiometry, respiratory and gastrological laboratory, cardiac catheterisation centre (collaborating with the Radiology Institute) and intensive internal medicine care centre, offering equipment for cardiac and respiratory resuscitation. Significant progress was observed regarding dialysis therapy, intensive internal medicine therapy and interventional cardiology [8].

In 1965, at the 1st Internal Medicine Ward, three novel directions of work were initiated.

- Capt. Antoni Marciniak conducted the first cardiac catheterisation. Over the next 27 years, the department offered cardiac catheterisation in collaboration with the Vascular Centre of the Radiology Institute. During the long co-operation of both centres, many patients were prepared for the surgical treatment of heart defects.
- Zofia Wańkowicz - currently a professor, for many years the head of the Department of Internal Diseases and Nephrology, conducted the first peritoneal dialysis, which contributed to the establishment of a nephrology centre. A small laboratory room at the 1st Ward was adapted for dialysis, and on 23rd October 1969, the Dialysis Centre, managed by Zofia Wańkowicz, started offering its services. Due to a limited supply of the fluid for peritoneal dialysis, collaboration was started with Arkadiusz Biernacki and Zdzisław Gałecki from the Applied Pharmacy Institute, and in the years 1968-1970, fluids and modified concentrates were produced in the hospital for intensive therapy in internal medicine, but also increasing often for chronic renal failure (CRF). A dialysis team was formed at the ward, comprising Prof. Wańkowicz and Capt. Janusz Ziemka MD (up to 1973). In 1968, an AUE artificial kidney (from East Germany) was obtained for haemodialysis [9, 10].
- A five-bed Centre of Intensive Internal Medicine Care in the case of threat to life was established and it was run by Andrzej Dyduszyński MD, PhD (a future professor) as one of the first centres of its kind in Poland, and for many years it was the only one in right-bank Warsaw. The first electric cardioversion and first effective resuscitation were performed there, and in the following year, a patient was saved for the first time with the use of artificial endocavitary cardiac stimulation. In the initial years of the centre's

Figure 7. COL Professor Sylwester Czaplicki (from: WIM archive)
Rycina 7. Płk prof. Sylwester Czaplicki (źródło: archiwum WIM)

Figure 8. COL Zbigniew Psarski, MD, PhD (from: WIM archive)
Rycina 8. Płk dr hab. med. Zbigniew Psarski (źródło: archiwum WIM)

functioning, not only cardiac patients, but also patients in any acute life-threatening emergency were treated. Based on the experience gathered at that time, Prof. Dymitr Aleksandrow and Assistant Prof. Wanda Wysznacka-Aleksandrow wrote a textbook *Intensive therapy in internal medicine*, which for many years was a "Bible" for all physicians treating patients in life-threatening emergencies [1, 10, 11]. From the beginnings, the ward had a primarily cardiological profile, both in its clinical and scientific work.

Particular attention should be given to the studies on fresh myocardial infarction, cardiac rhythm disorders and cardiogenic shock. Numerous studies of considerable practical importance explored the issues of intensive cardiac care, observed in the well-organized Centre of Intensive Internal Medicine Care run by Andrzej Dyduszyński MD.

New diagnostic methods were introduced at the department:

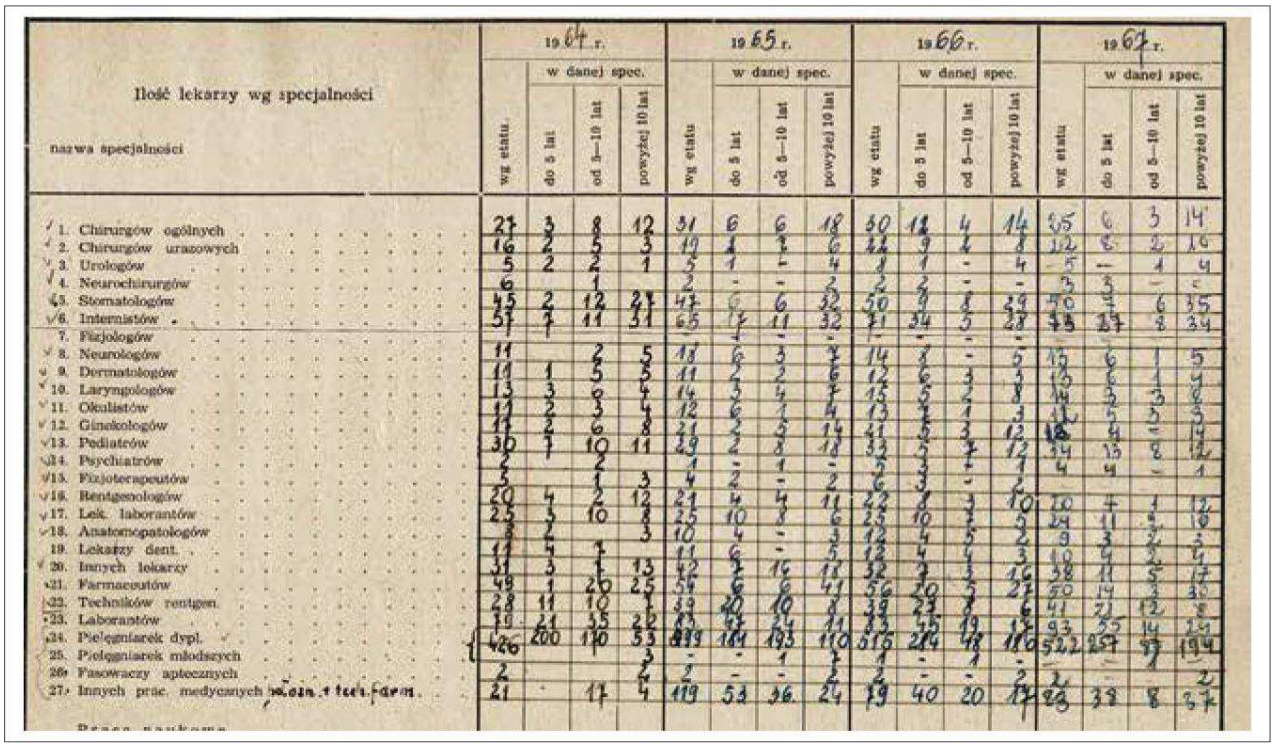
- tele-electrocardiography,
- continuous ECG tape recording,
- arterial and capillary blood gasometry,
- diagnostics using isoenzymes, spirometry and capnography,
- diagnostics of the treatable causes of hypertension.

The following physicians were associated with the Department: Prof. Aleksander Michajlik MD, PhD; Piotr Borkowski MD, PhD; COL Assoc. Prof. Zdzisław Dobrzański MD, PhD; Anna Aleksandrowicz MD, PhD; Maria Prosińska-Kibler MD, PhD and Andrzej Wiernikowski MD, PhD [11-15].

The 2nd Internal Medicine Ward offered mainly the treatment of pulmonary disorders. It was equipped with a device for functional respiratory tests and a pleural puncture set. At the same time, patients with diabetes and endocrinological disorders, especially those of the thyroid, were also treated at the ward.

The physicians working at the ward included: Hanna Barańska, Edward Dąbrowski, Lt. COL Jerzy Farner, Lt. COL Henryk Miśkiewicz MD, PhD, Anna Frank-Piskorska, Lt. Tadeusz Koczorowski, Capt. Zbigniew Wąsek (in the years 1984-1989, head of the 2nd Department of Internal Diseases), Maj. Tadeusz Rybacki and Lt. Tadeusz Płusa (from 1973, future professor, for many years the head of the 2nd Department of Internal Diseases and Pulmonology) [16].

The 3rd Internal Medicine Ward focused on conservative cardiology, rheumatology and haematology.



Ilość lekarzy wg specjalności

nazwa specjalności	1964 r. wg etatu	1964 r. w danej spec. do 5 lat	1964 r. w danej spec. od 5—10 lat	1964 r. w danej spec. powyżej 10 lat	1965 r. wg etatu	1965 r. w danej spec. do 5 lat	1965 r. w danej spec. od 5—10 lat	1965 r. w danej spec. powyżej 10 lat	1966 r. wg etatu	1966 r. w danej spec. do 5 lat	1966 r. w danej spec. od 5—10 lat	1966 r. w danej spec. powyżej 10 lat	1967 r. wg etatu	1967 r. w danej spec. do 5 lat	1967 r. w danej spec. od 5—10 lat	1967 r. w danej spec. powyżej 10 lat
1. Chirurgów ogólnych	27	3	8	12	31	6	6	18	30	12	4	14	35	6	3	14
2. Chirurgów urazowych	16	2	5	3	19	1	2	6	22	9	4	8	22	8	2	12
3. Urologów	5	2	2	1	5	1	2	4	8	1	-	4	5	1	1	4
4. Neurochirurgów	6		1		2	-	-	2	2	2	-	-	3	3	-	-
5. Stomatologów	45	2	12	27	47	6	6	32	50	9	8	29	40	4	6	35
6. Internistów	37	1	11	31	65	17	11	32	71	34	5	28	45	17	8	34
7. Fizjologów																
8. Neurologów	11		2	5	18	6	3	7	14	2	-	5	15	6	1	5
9. Dermatologów	11	1	5	5	11	2	2	6	12	6	3	3	13	6	1	5
10. Laryngologów	13	3	6	4	14	2	4	7	15	5	2	8	14	2	3	8
11. Okulistów	11	2	3	4	12	6	1	4	13	2	1	3	11	4	2	5
12. Ginekologów	11	2	6	8	21	2	5	14	41	5	3	12	18	4	-	14
13. Pediatrów	30	1	10	11	29	2	8	18	33	5	7	12	34	13	8	12
14. Psychiatrów	2		2		1	-	1	-	3	3	-	1	4	4	-	1
15. Fizjoterapeutów	5		1	3	4	2	-	2	6	3	-	2				
16. Bentgenologów	20	4	2	12	21	4	4	11	22	1	3	10	20	7	1	12
17. Lek. laborantów	23	3	10	8	25	10	8	6	25	10	3	9	24	11	3	10
18. Anatomopatologów	8	2		3	10	4	-	3	12	4	5	2	9	3	2	3
19. Lekarzy dent.	11	4	7		11	6	-	5	12	4	4	3	10	4	2	4
20. Innych lekarzy	31	3	5	13	42	7	16	13	32	3	3	16	38	11	5	17
21. Farmaceutów	48	1	20	25	54	6	6	41	56	20	3	21	50	14	3	30
22. Techników rentgen.	28	11	10	1	39	20	10	8	39	23	7	6	41	21	12	8
23. Laborantów	79	21	35	23	83	47	24	11	83	45	19	17	93	55	14	24
24. Pielęgniarek dypl.	426	200	110	53	499	181	193	110	516	214	48	116	522	259	99	164
25. Pielęgniarek młodszych				3	-	-	1	1	1	-	1	-				
26. Fasowaczy aptecznych	2			2	2	-	-	2	2	-	-	2	2	-	-	2
27. Innych prac. medycznych	21		17	4	119	53	36	24	19	40	20	17	23	33	8	37

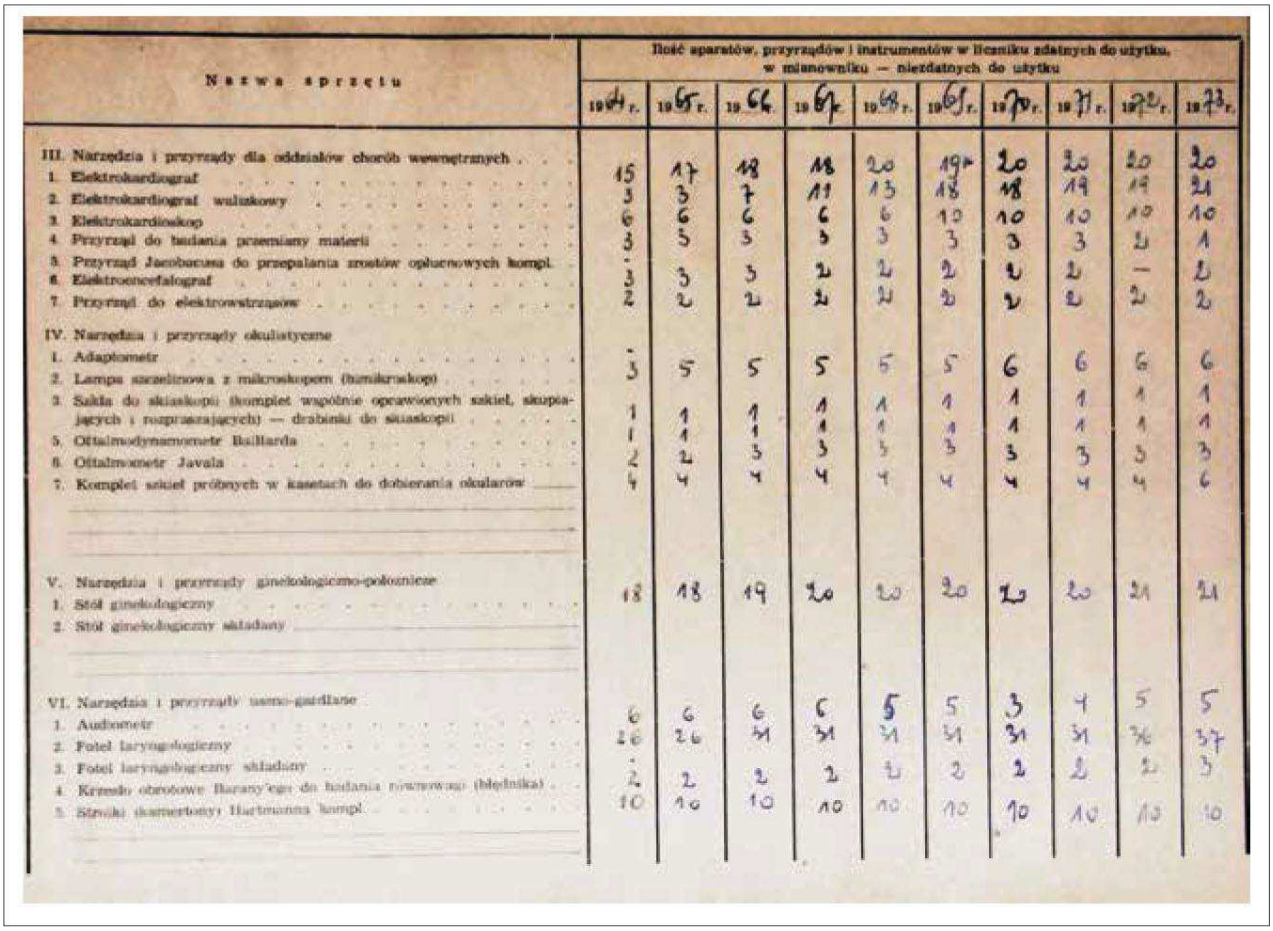
Figure 9. List of physicians employed at the 2nd CSKWAM 1965-1967 (from: the Center Register, p. 22)
Rycina 9. Wykaz lekarzy zatrudnionych w 2. CSKWAM w latach 1965-1967 (źródło: Metryka Zakładu, s. 22)

Among the physicians working at the ward were the following: cardiologists COL Antoni Marciniak MD, PhD and Capt. Janusz Kaczorowski; rheumatologists: COL Prof. Jan Gietka MD, PhD, COL Assistant Prof. Zenon Krzakowski MD, PhD; haematologists: Lt. COL Dorota Kuźmińska MD, PhD, Capt. Kazimierz Sułek MD (currently a professor, for many years the head of the Department of Internal Diseases and Haematology) [17].

The activity of the 4th Internal Medicine Ward focused on the problems of diagnostics and treatment of gastrointestinal, pancreatic, hepatic and biliary diseases. In 1973, Assistant Prof. Tadeusz Grabowski organized the first freelance endoscopic laboratory in military health care, which began the use of endoscopy in the army. Several physicians were trained in the laboratory. Also in 1973, Zaborowski PhD, together with Assistant Prof. Grabowski, performed the first blind hepatic puncture. The ward co-operated with Lt. COL Tadeusz Kulisiewicz MD, PhD from the Mental Health Clinic in the treatment of certain dependencies. Among the physicians employed at the ward were the following: Capt. Stanisław Dziwiński MD, Lt. COL Kazimierz Nowak MD, Alicja Piotrowska MD, PhD, and from 1972, Lt. Piotr Zaborowski MD (future professor, Head of the Department of Internal Diseases and Gastroenterology) [18].

The scientific achievements of the Internal Medicine Wards registered in the “Publications of the Employees of the Military Institute of Medicine” database comprise 572 positions, including 376 studies published in Polish medical journals, e.g. *Polski Tygodnik Lekarski [Polish Medical Weekly], Wiadomości Lekarskie [Medical News], Reumatologia Polska [Polish Rheumatology], Polish Medical Journal, Kardiologia Polska [Polish Cardiology]* and *Lekarz Wojskowy* [*Military Physician]*; 11 monographs, e.g.

- Aleksandrow D, Michajlik A. Jak ustrzec się choroby wieńcowej i zawału serca: Materiały dla kadry zawodowej WP [How to prevent coronary disease and myocardial infarction: materials for professional Polish Army personnel], Propaganda Committee of the Chief Political Committee of the Polish Army 1967 (109 pp.);
- Toth Z, Dobrzański Z. Zastosowanie izotopów promieniotwórczych w badaniach wątroby [Radioactive isotopes in liver testing], Nuclear Energy Information centre, Warsaw 1967 (76 pp.); INF-1. Committee of the Chief Political Committee of the Polish Army 1967 (76 pp.);
- Aleksandrow D, Wysznacka-Aleksandrow W. Postępowanie w nagłych przypadkach internistycznych [Management in emergencies in internal medicine], PZWL, Warsaw 1967: [1], VI-X (201 pp. - the book was published several times);



Nazwa sprzętu	Ilość aparatów, przyrządów i instrumentów w liczniku zdatnych do użytku, w mianowniku — niezdatnych do użytku									
	19[illegible] r.	19[illegible] r.	19[illegible] r.	19[illegible] r.	19[illegible] r.	19[illegible] r.	19[illegible] r.	19[illegible] r.	19[illegible] r.	19[illegible] r.
III. Narzędzia i przyrządy dla oddziałów chorób wewnętrznych										
1. Elektrokardiograf	15	17	18	18	20	19	20	20	20	20
2. Elektrokardiograf wulzikowy	3	3	7	11	13	18	18	19	19	21
3. Elektrokardioskop	6	6	6	6	6	10	10	10	10	10
4. Przyrząd do badania przemiany materii	3	3	3	3	3	3	3	3	2	1
5. Przyrząd Jacobaeusa do przepalania zrostów opłucnowych kompl.	-									
6. Elektroencefalograf	3	3	3	2	2	2	2	2	—	2
7. Przyrząd do elektrowstrząsów	2	2	2	2	2	2	2	2	2	2
IV. Narzędzia i przyrządy okulistyczne										
1. Adaptometr	-									
2. Lampa szczelinowa z mikroskopem (biomikroskop)	3	5	5	5	5	5	6	6	6	6
3. Sakla do skiaskopii (komplet wspólnie opracowanych szkieł, skupiających i rozpraszających) — drabinka do skiaskopii	1	1	1	1	1	1	1	1	1	1
4. Oftalmodynamometr Baillarda	1	1	1	1	1	1	1	1	1	1
5. Oftalmometr Javala	2	2	3	3	3	3	3	3	3	3
6. Komplet szkieł próbnych w kasetach do dobierania okularów	4	4	4	4	4	4	4	4	4	6
V. Narzędzia i przyrządy ginekologiczno-położnicze										
1. Stół ginekologiczny	18	18	19	20	20	20	20	20	21	21
2. Stół ginekologiczny składany										
VI. Narzędzia i przyrządy uszno-gardłowe										
1. Audiometr	6	6	6	6	5	5	3	4	5	5
2. Fotel laryngologiczny	26	26	31	31	31	31	31	31	36	37
3. Fotel laryngologiczny składany	-									
4. Kranido obrotowe Barany'ego do badania nerwowego (błędnika)	2	2	2	2	2	2	2	2	2	3
5. Stroiki diamentowe Hartmanna kompl.	10	10	10	10	10	10	10	10	10	10

Figure 10. List of instruments and devices for internal medicine departments, 1964-1967 (from: the Center Register, p. 18)
Rycina 10. Wykaz narzędzi i przyrządów dla oddziałów chorób wewnętrznych w latach 1964-1967 (źródło: Metryka Zakładu, s. 18)

- Aleksandrow D, Wysznacka W. Rozpoznawanie chorób [Diagnosing diseases], PZWL, Warsaw 1970 (352 pp.);
- Aleksandrow D, Michajlik A. Jak ustrzec się choroby wieńcowej i zawału serca [How to prevent coronary disease and myocardial infarction], PZWL, Warsaw 1970 [6] (110 pp.).

The results of studies conducted at the wards often provided research material for future doctoral and habilitation theses for the personnel employed at various units.

From the beginning, the Chair and 2nd Department of Internal Diseases offered training. This included specialist courses, postgraduate education for the Military Medical Academy graduates and military physicians, as well as field training during sessions held in various locations.

In July 1967, when the tasks of the School of Professional Training and Specialisation at the Military Medical Academy in Łódź were passed to the Postgraduate Education Institute of the Military Medical Academy at the 2nd CSK WAM (transformed from the 2CSK WAM), the Department also significantly extended the scope of its postgraduate training for physicians, dentists and pharmacists in military health care.

It organized two-year-long postgraduate internships and 3-month-long pre-exam courses for physicians preparing for specialisation exams, as well as short courses on a number of subjects.

Professor Dymitr Aleksandrow wrote an article on postgraduate education, published in 1971, which began as follows: “Medicine is a profession that requires continuous study from its practitioners (...). With the current rate of development of medical sciences, a physician who stops studying will be outside the mainstream of modern knowledge within a few years of graduating, and after 10 years will become a pathetic anachronism, unable to provide effective assistance to anyone” [19]. Professor placed emphasis not only on the scientific and research role of the department, but also on the training of new personnel and improvement of their knowledge and skills.

The principal forms of training included short courses for physicians delegated from other parts of the country to the institute, and were organized continuously to allow physicians to maintain regular contact with the institute. This form of education enabled the participants to benefit from the experience of physicians working at the Postgraduate Education Institute of the Military Medical Academy, to consult experts on difficult cases, as well as to learn about new diagnostic and therapeutic methods based on new tools and scientific discoveries.

Creation of the Institute of Internal Medicine

In 1974, following the order of the Deputy Chief of the General Staff of the Polish Army of 2nd August, the Postgraduate Education Institute of the Military Medical Academy was re-named the Centre of Postgraduate Education. Its tasks were the same as previously: to play the role of a leading consultation centre in the army for specialist medical services, and to provide the basis for specialisation and scientific development of medical personnel. The centre was also responsible for implementing research work as part of the scientific plan of the Ministry of National Defence. The structure of the centre changed; four institutes were formed, as well as independent departments, new units and laboratories.

The Internal Medicine Wards became Departments of Internal Diseases with different profiles, and were incorporated in the Institute of Internal Medicine. The institute was structured as follows:

- Head of the Institute – Brig. Gen. Prof. Dymitr Aleksandrow MD, PhD;
- 1st Department of Internal Diseases, head: Prof. Wanda Wysznacka-Aleksandrow MD, PhD;
- 2nd Department of Internal Diseases, head: COL Assoc. Prof. Konstanty Jacyna MD, PhD;
- 3rd Department of Internal Diseases, head: COL Prof. Sylwester Czaplicki MD, PhD;
- 4th Department of Internal Diseases, head: COL Zbigniew Psarski MD, PhD;
- 5th Department of Internal Diseases, head: COL Assoc. Prof. Zdzisław Tyszkiewicz MD, PhD.

The institute also comprised the Department of Infectious Diseases, head: COL Assoc. Prof. Zdzisław Dobrzański MD, PhD.

This was the beginning of a particularly positive period in the history of our institution. It was the time marked by the development of many medical specialisations, the introduction of state-of-the-art equipment, organization of profiled departments and the intensive training of personnel. The history of this period is worthy of numerous publications.

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Commander Stanley W. Raczek, MC US Navy - Initiator of the Polish-American Partnership in Military Psychiatry, 1993-2008

Komandor Stanley W. Raczek, MD US Navy - inicjator polsko-amerykańskiego partnerstwa w dziedzinie psychiatrii wojskowej, 1993-2008

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Abstract The paper presents Stanley W. Raczek, MD, an American psychiatrist of Polish origin, a commander in the US Navy, and his merits in establishing cooperation between Polish and American military psychiatrists. Dr. Raczek's life story is described, including his studies and work in Poland, the circumstances of his emigration to the USA, his phases of assimilation in the United States and, finally, his service in the medical corps of the US Navy. CDR Raczek's contribution to the organization of three Polish-American scientific and educational conferences is discussed: in Warsaw and Krakow (1998), in San Diego (1999) and again in Warsaw and Krakow (2001). During the last conference held in Warsaw, Letters of Intent were signed on the partnership between the Central Clinical Hospital of the Warsaw Military Academy of Medicine and the US Navy Medical Center in San Diego. The significant role played by Dr. Raczek in building the effective cooperation between the Virtual Reality Medical Center of San Diego and the Warsaw Military Medical Institute in the therapy of PTSD enhanced with the VR technology is also presented. Dr. Raczek's various activities among Polish-American organizations are characterized by building close relations with his motherland. Furthermore, information is also presented on the high-rank medals he was awarded for these activities as well as information about his close family.
Key words: history of Polish psychiatry, military psychiatry, PTSD treatment

Streszczenie W artykule przedstawiono osobę doktora Stanleya W. Raczka, amerykańskiego psychiatry polskiego pochodzenia, komandora US Navy, oraz jego zasługi w dziedzinie nawiązania współpracy polskich i amerykańskich psychiatrów wojskowych. Opisano jego rodowód, przebieg studiów i pracy zawodowej w Polsce, okoliczności emigracji do USA, etapy asymilacji w tym kraju oraz służbę w korpusie medycznym amerykańskiej Marynarki Wojennej. Scharakteryzowano jego rolę w organizacji trzech polsko-amerykańskich konferencji naukowo-szkoleniowych psychiatrów wojskowych: w Warszawie-Krakowie (1998), San Diego (1999) oraz Warszawie-Krakowie (2001), uwieńczonej podpisaniem listów intencyjnych o współpracy naukowo-szkoleniowej Centralnego Szpitala Klinicznego Wojskowej Akademii Medycznej w Warszawie z Medycznym Centrum Marynarki Wojennej USA w San Diego Podkreślono znaczącą rolę dr. Raczka w nawiązaniu efektywnej współpracy naukowej między Virtual Reality Medical Center w San Diego i Wojskowym Instytutem Medycznym w Warszawie w zakresie terapii PTSD z zastosowaniem technologii VR. Scharakteryzowano jego wielostronną działalność w organizacjach polonijnych na rzecz zacieśnienia relacji z ojczystym krajem. Załączono informacje o przyznanych mu za tę działalność wysokich polskich odznaczeniach oraz wiadomości o jego najbliższej rodzinie.
Słowa kluczowe: psychiatria wojskowa, historia polskiej psychiatrii, leczenie PTSD

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I met Stanley Raczek, a doctor and commander, and an American psychiatrist of Polish origin, during a break at the 37th Meeting of Polish Psychiatrists in Poznań, in the spring of 1992, on a visit to Poland for the first time after more than 16 years spent abroad. We exchanged a few words, without considering the possibility of future professional collaboration. At the time, only six months after the collapse of the Warsaw Pact, such co-operation was still difficult to imagine. The currently celebrated 100th anniversary of psychiatry in the Polish Army offers an opportunity to present Stanley Raczek and the role he played in that history to the readers of *Military Physician*.

Stanisław Raczek was born on 20th October 1945 in Włodary, a small village in Nysa County, as the second of six children to Jan Raczek, a railroad worker, and Józefa née Kolonko. His parents, who came from the Żywiec area, moved to the Opolszczyzna region right after the war, as part of the resettlement of the Recovered Territories. After a year, the family moved to Nowy Las, a small village by the Nysa, where Stanisław Raczek completed his primary school education. He continued at Mikołaj Kopernik General Education Secondary School No. 1 in Żywiec, while he lived with his grandmother in the nearby village of Kocierz Moszczanicki. Raczek graduated from the secondary school in 1963. He wanted to be a mathematician, but instead decided to study medicine at the Wrocław Medical University. At the university, psychiatry was of particular interest to him. Raczek was an active member of a students' scientific organization, and he organized two "scientific research" summer camps at the Psychiatric Hospital in Stronie Śląskie, near Kłodzko. He received his medical diploma in 1969. He completed the post-graduate internship and specialty training programme at the Voivodship Hospital - Paediatric Neuropsychiatry Sanatorium in Krośnice, near Milicz. There he met his future wife, Maria, who was working at the hospital as a tutor to the paediatric patients, while studying special pedagogy at the University of Wrocław.

From 1972 to 1975, Dr. Raczek worked as an assistant-PhD candidate at the Department of Psychiatry at Wrocław Medical University. He wrote a dissertation on "The problem of alcoholism in children and adolescents in Poland". In 1975, after a sudden termination of his employment at the university, Raczek emigrated to the United States. Working in a private radiology office in New York as a "physician's assistant", he began learning English and preparing for the nostrification exams, which he passed in 1978. Then he passed the qualification exam for a psychiatry residency programme at the Beth Israel Medical Center in New York [1]. After completing the programme, in June 1982, he joined the United States Navy (USN) as Stanley W. Raczek. He received the rank of Lieutenant, and was assigned to the Naval Regional Medical Center Portsmouth, Virginia, where he became acquainted with the specifics of military psychiatry. One year later, Dr. Raczek was promoted to Lieutenant Commander, and was commissioned in the US Navy (Fig. 1). In 1984, having passed the American Board of Psychiatry and Neurology exam, he received an American certificate of Specialist in Psychiatry.

Figure 1. CAPT Rizzi, Commanding Officer of the Naval Medical Center Portsmouth, congratulates Dr. Raczek for his elevation to the rank of Lieutenant Commander, in the presence of his wife Maria, Dec. 3,1983
Rycina 1. CAPT Rizzi, komendant Naval Medical Center Portsmouth, gratuluje dr. Raczkowi awansu na stopień Lieutenant Commander, w obecności jego żony Marii, 3.12.1983 r.

In 1986, Dr. Raczek was assigned the position of Head of the Psychiatry Department of the US Naval Hospital in Naples. The hospital provided medical assistance to the personnel and families of American soldiers (Navy, Marines, Army, Air Force) stationed in Italy and Greece, as well as to the employees of American Embassy in Rome and the Consulate in Naples and their families. During the Gulf War (1991 - *Desert Storm*), the hospital in Naples was the first evacuation stop for the injured and ill American soldiers from Kuwait and Iraq. Severely wounded patients were transported to the American hospital in Ramstein, Germany, and then to the United States. Many hospitalised patients were diagnosed with mental disorders associated with combat stress.

Doctor Raczek reminisces: "During my five years of service in Naples, my daughter Kasia went to the American kindergarten, and my wife Maria studied Italian intensively. Together with the wives of other officers, she organized trips to nearby and more distant tourist attractions, such as Mount Vesuvius, Herculaneum, Pompei, Capri or the Amalfi Coast. With time, she gained enough experience to organise on her own trips to these places for visitors from Poland. We frequently went to Rome, to the Vatican, for meetings with our Polish pope. We participated in audiences and Christmas midnight

Figure 2. Maria, Kasia and Stanley Raczek at a private audience with Pope John Paul II in the Vatican, Dec. 24,1989
Rycina 2. Maria, Kasia i Stanley Raczek na prywatnej audiencji u Papieża Jana Pawła II w Watykanie, 24.12.1989 r.

masses celebrated by the Holy Father. In December 1989, we had the honour of attending holy mass in a small, private papal chapel. After holy mass, we were invited to a library next to the chapel where, by the Christmas tree decorated with Polish baubles, the pope asked us about our stay in Italy, blessed us and gave us rosaries (Fig. 2). However, the most important event for us was the visit of my parents to Naples. They were happy to be able to see us, hug their American granddaughter for the first time, see a bit of Italy, and meet the Polish pope in the Vatican, while we were delighted to be with them, even if just for a short time".

After his return to the USA in 1991, Dr. Raczek continued his service at the Naval Medical Center San Diego (NMCSD) in California, one of the biggest and state-of-the-art American military hospitals ("The Pride of Navy Medicine"), where he was a Deputy Head of the Department of Psychiatry. In addition to his clinical and administrative duties, he was responsible for the training of students and residents, and participated in scientific research, the results of which were published and presented at numerous scientific conferences [2-5].

In 1997, Dr. Raczek was re-assigned to the US Naval Hospital in Naples, where he provided medical care to the NATO soldiers involved in the military operations in former Yugoslavia. During that stay, in June 1998, on his own initiative, he organized a visit of American military psychiatrists to Poland. The delegation was represented by CAPT Michael Bailey - Head of the Department of Psychiatry at NMC San Diego, COL George Pierożyński - a psychiatrist, retired officer of the US Army from El Paso, Texas and CDR Raczek himself. The leader of the delegation was CAPT Albert Shimkus, Deputy Commandant of the US Naval Hospital in Naples. The members of the American delegation participated in the

Figure 3. 1st Symposium of Polish and American Military Psychiatrists, held in Warsaw and Krakow; (kneeling) COL Pierożyński, (first row, from left) CAPT Bailey, COL Trybusz, CDR Raczek, COL Florkowski, COL Ilnicki, (second row) CAPT Shimkus, COL Kocur, COL Malewicz, Oct. 6,1998
Rycina 3. I Sympozjum Polskich i Amerykańskich Psychiatrów Wojskowych, Warszawa-Kraków; (w przyklęku) COL Pierożyński, (pierwszy rząd od lewej) CAPT Bailey, Płk Trybusz, CDR Raczek, Płk Florkowski, Płk Ilnicki, (drugi rząd) CAPT Shimkus, Płk Kocur, Płk Malewicz, 10.06.1998 r.

1st Symposium of Polish and American Psychiatrists organized on 9-10th June 1998, in Warsaw and Krakow (Fig. 3). One could say that following the "reconnaissance" in 1993, at the Military Medical University in Łódź [6], the symposium initiated the actual educational collaboration between Polish and American military psychiatrists.

On 12th March 1999, Poland became a member of the North Atlantic Treaty Organization (NATO). In the same year, on 16-25th October, the 2nd Symposium of Polish and American Psychiatrists took place at NMC San Diego, California. The hosts of the symposium were RADM Alberto Diaz - Commandant of NMC, CAPT Michael Bailey - Head of the Department of Psychiatry at NMC and CDR Stanley Raczek, temporarily delegated from the US Naval Hospital in Naples. The Polish delegation was represented by COL Antoni Florkowski, COL Wojciech Gruszczyński, COL Stanisław Ilnicki and MAJ Zbigniew Wawrzyniak; the first three representatives coming with their wives (Fig. 4).

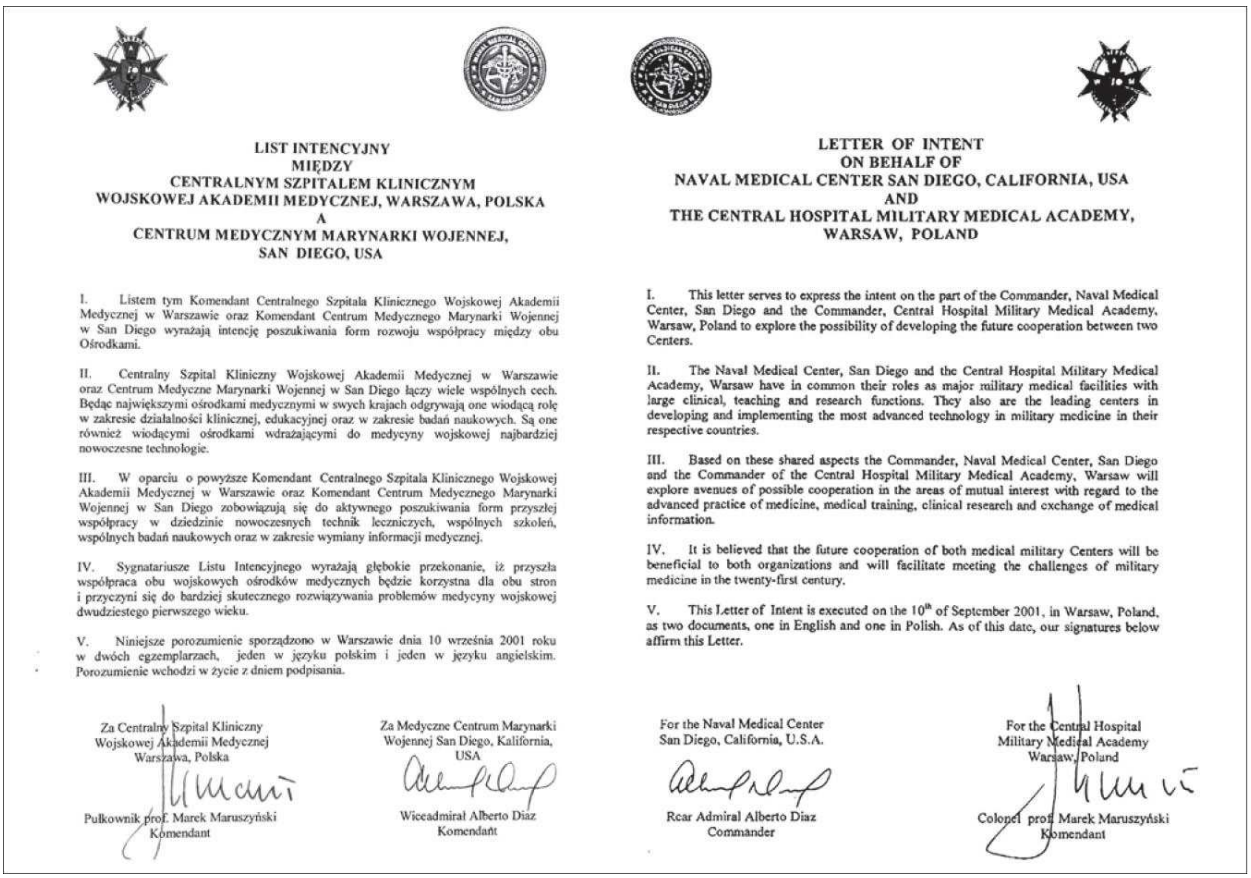
A broad scientific and training programme included lectures and meetings with renowned American military medicine experts, visiting the NMC, the Medical Faculty of the University California San Diego (UCSD) and the Veterans Affairs Medical Center (VAMC), as well as visits to the USS John C. Stennis aircraft carrier and the USNS Mercy ship-hospital. The programme was enriched by a meeting at the Office of the Mayor of San Diego, Ms Susan Golding; moving meetings with the members of the Californian Polish diaspora; visits to the residences of RADM Alberto Diaz and his wife, Margaret, CAPT Michael Bailey and his wife Leslie Day, at Polish Art Salon in San

Diego (PSASD); in the residence of Dr. Maria Schmidt and Andrzej Szmidt; in the house of Dr. Zofia Dziewanowska; a spontaneous trip to Mexican Tijuana, organized by Dr. Jerzy Barankiewicz and other events. The effort invested by the representative of Polish diaspora in the organization of our stay and the emotional reactions of the participants of meetings to Polish military uniforms and four-cornered caps with a crowned eagle suggested that our stay in San Diego for many Poles was like a visit to Poland.

In 2000, Dr. Raczek returned from Naples and continued his former duties at the Department of Psychiatry at NMC. He also prepared the 3rd Scientific and Training Symposium of Polish and American Military Psychiatrists and Psychologists, which took place on 10-14th September 2001 in Warsaw and Krakow. In the official part of the symposium, on 10th September, the Commandant of the Central Clinical Hospital at the Military Medical Academy in Warsaw, COL Prof. Marek Maruszyński and the Commandant of the Naval Medical Center San Diego RADM Alberto Diaz signed Letters of Intent, in which they expressed "the intent to explore the possibility of developing the future cooperation between two centres" (Fig. 5). Commander Raczek actively participated in the preparation of these documents, and

Figure 4. 2nd Symposium of Polish and American Military Psychiatrists, held in San Diego, from left COL Florkowski, COL Ilnicki, COL Gruszczyński, CAPT Bailey, MAJ Wawrzyniak, CDR Raczek, Oct. 22,1999

Rycina 4. II Sympozjum Polskich i Amerykańskich Psychiatrów Wojskowych w San Diego, od lewej Płk Florkowski, Płk Ilnicki, Płk Gruszczyński, CAPT Bailey, Mjr Wawrzyniak, CDR Raczek, 22.10.1999 r.



LIST INTENCYJNY
MIĘDZY
CENTRALNYM SZPITALEM KLINICZNYM
WOJSKOWEJ AKADEMII MEDYCZNEJ, WARSZAWA, POLSKA
A
CENTRUM MEDYCZNYM MARYNARKI WOJENNEJ,
SAN DIEGO, USA

I. Listem tym Komendant Centralnego Szpitala Klinicznego Wojskowej Akademii Medycznej w Warszawie oraz Komendant Centrum Medycznego Marynarki Wojennej w San Diego wyrażają intencję poszukiwania form rozwoju współpracy między obu Ośrodkami.

II. Centralny Szpital Kliniczny Wojskowej Akademii Medycznej w Warszawie oraz Centrum Medyczne Marynarki Wojennej w San Diego łączy wiele wspólnych cech. Będąc największymi ośrodkami medycznymi w swych krajach odgrywają one wiodącą rolę w zakresie działalności klinicznej, edukacyjnej oraz w zakresie badań naukowych. Są one również wiodącymi ośrodkami wdrażającymi do medycyny wojskowej najbardziej nowoczesne technologie.

III. W oparciu o powyższe Komendant Centralnego Szpitala Klinicznego Wojskowej Akademii Medycznej w Warszawie oraz Komendant Centrum Medycznego Marynarki Wojennej w San Diego zobowiązują się do aktywnego poszukiwania form przyszłej współpracy w dziedzinie nowoczesnych technik leczniczych, wspólnych szkoleń, wspólnych badań naukowych oraz w zakresie wymiany informacji medycznej.

IV. Sygnatariusze Listu Intencyjnego wyrażają głębokie przekonanie, iż przyszła współpraca obu wojskowych ośrodków medycznych będzie korzystna dla obu stron i przyczyni się do bardziej skutecznego rozwiązywania problemów medycyny wojskowej dwudziestego pierwszego wieku.

V. Niniejsze porozumienie sporządzono w Warszawie dnia 10 września 2001 roku w dwóch egzemplarzach, jeden w języku polskim i jeden w języku angielskim. Porozumienie wchodzi w życie z dniem podpisania.

Za Centralny Szpital Kliniczny
Wojskowej Akademii Medycznej
Warszawa, Polska

Pułkownik prof. Marek Maruszyński
Komendant

Za Medyczne Centrum Marynarki
Wojennej San Diego, Kalifornia,
USA

Wiceadmirał Alberto Diaz
Komendant

LETTER OF INTENT
ON BEHALF OF
NAVAL MEDICAL CENTER SAN DIEGO, CALIFORNIA, USA
AND
THE CENTRAL HOSPITAL MILITARY MEDICAL ACADEMY,
WARSAW, POLAND

I. This letter serves to express the intent on the part of the Commander, Naval Medical Center, San Diego and the Commander, Central Hospital Military Medical Academy, Warsaw, Poland to explore the possibility of developing the future cooperation between two Centers.

II. The Naval Medical Center, San Diego and the Central Hospital Military Medical Academy, Warsaw have in common their roles as major military medical facilities with large clinical, teaching and research functions. They also are the leading centers in developing and implementing the most advanced technology in military medicine in their respective countries.

III. Based on these shared aspects the Commander, Naval Medical Center, San Diego and the Commander of the Central Hospital Military Medical Academy, Warsaw will explore avenues of possible cooperation in the areas of mutual interest with regard to the advanced practice of medicine, medical training, clinical research and exchange of medical information.

IV. It is believed that the future cooperation of both medical military Centers will be beneficial to both organizations and will facilitate meeting the challenges of military medicine in the twenty-first century.

V. This Letter of Intent is executed on the 10th of September 2001, in Warsaw, Poland, as two documents, one in English and one in Polish. As of this date, our signatures below affirm this Letter.

For the Naval Medical Center
San Diego, California, U.S.A.

Rear Admiral Alberto Diaz
Commander

For the Central Hospital
Military Medical Academy
Warsaw, Poland

Colonel prof. Marek Maruszyński
Komendant

Figure 5. Letters of Intent on the partnership between the 2nd CSK WAM in Warsaw and NMC San Diego signed on Sept. 10; 2001

Rycina 5. Listy Intencyjne w sprawie współpracy między 2 CSK WAM w Warszawie i NMC San Diego z 10 września 2001 r.

became their worthy depositary. The copies of the letters reproduced in this article come from his archives.

The second day of the symposium, 11th September, was devoted to presentations and training of rapid psychiatric interventions during mass catastrophes (Special Psychiatric Rapid Intervention Team - SPRINT). Fate had it that on that day, after the workshop, the terrorist attack took place on the World Trade Centre in New York and the Pentagon building in Washington. In those dramatic circumstances, the participants of the symposium could verify the practical value of the training [7].

In 2005, CDR Raczek ended his service in NMCSD, and started work as a psychiatrist at the Marine Corps Base Camp Pendleton, approximately 30 km north of San Diego. Simultaneously, he started collaboration with the Virtual Reality Medical Center (VRMC) in San Diego on using Virtual Reality (VR) in the treatment of anxiety disorders in soldiers and veterans. He convinced the president of the VRMC, Mark D. Wiederhold PhD, to implement this research project in Poland, which, as a member of the NATO coalition, joined the war on terrorism in 2002. As the newly created Department of Psychiatry and Combat Stress at the Military Institute of Medicine was selected to carry out the project, the centre became involved in mainstream research on the effective therapy of PTSD. Thus, CDR Raczek personally contributed to the fulfilment of an obligation postulated in the Letters of Intent "to explore avenues of possible cooperation in the areas of mutual interest with regard to the advanced practice of medicine, medical training, clinical research and exchange of medical information". The last endeavour, ending Dr. Stanley Raczek's active collaboration with the Military Institute of Medicine, was his participation with Prof. Brenda K. Wiederhold PhD, supervising of the VRMC project, and the group of psychiatrists and psychologists from the Department of Psychiatry and Combat Stress in the symposium taking place on 11-12th December 2008 in Wisła, entitled "One goal, two methods: pharmacotherapy and psychotherapy", where the initial results of the project were presented [8].

Dr. Raczek spent the last 6 months of his military service at the Marine Corps Air Ground Combat Center 29 Palms, in the area of the famous Death Valley. For young marines it was the last training before their deployment to the war in Iraq and Afghanistan. On 9th November 2009, with over 26 years of service in the US Navy, CDR Stanley W. Raczek retired (Fig. 6). For his exemplary service at the US Navy he received a number of medals and distinctions, e.g. six times the Navy and Marine Corps Achievement Medal, twice the Overseas Service Medal, Southwest Asia Service Medal, Kosovo Campaign Medal, NATO Medal, Meritorious Unit Commendation Medal, Global War on Terrorism Service Medal and National Defense Service Medal. For his service at 29 Palms, apart from the Navy and Marine Corps Commendation Medal, Raczek received an honorary "Desert Rats" Certificate, which he values highly.

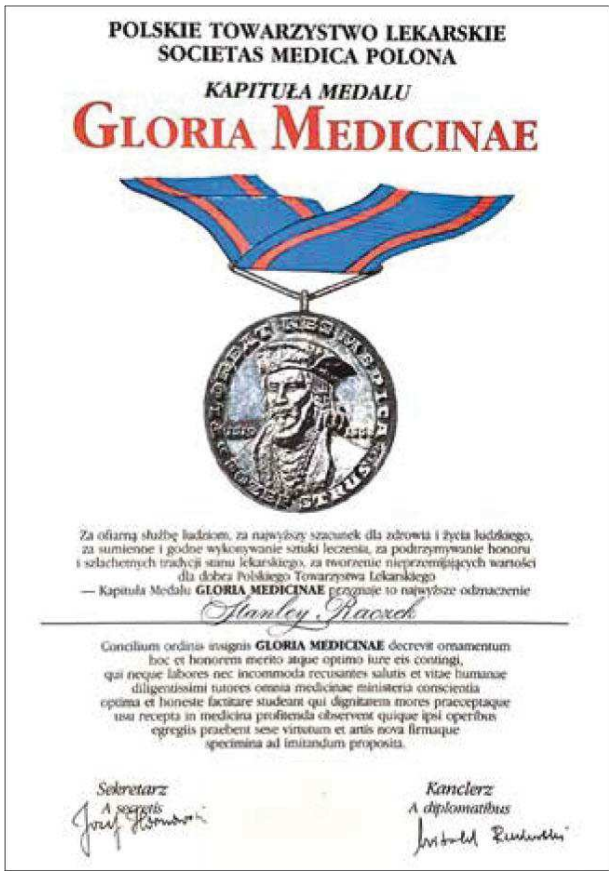
Figure 6. CDR Raczek's retirement party, Nov 9, 2009
Rycina 6. Kmdr Raczek podczas przyjęcia z okazji przejścia na emeryturę, 9 listopada 2009 r.

Following his retirement from the Navy, Dr. Raczek worked for 7 years at VAMC in La Jolla, California (2009-2016), earning recognition from his colleagues, psychiatrists, and the respect of patients, the veterans. As a psychiatrist, he worked for 37 years in the USA.

In presenting Dr. Stanley Raczek's contribution to the partnership of Polish and American military psychiatrists, his other achievements should also be mentioned. In 1987, he co-founded the Association of Polish Psychiatrists and Neurologists in America (APPNA), which later became the International Association of Polish Psychiatrists (IAPP). At its peak, the association comprised 140 psychiatrists of Polish origin from 27 countries, on 5 continents, as well as 255 psychiatrists from Poland. Dr. Raczek was a secretary in IAPP, then its chairman and for many years the Editor-in-Chief of the Organization's journal *Psychiatric Forum* (*Forum Psychiatryczne*). In 1995, he co-organized the San Diego

- Warsaw Sister Cities Association. For many years, Dr. Raczek was a board member and vice chairman of the association, and he collaborated with the Committee of Sister Cities in Warsaw, chaired by Prof. Jerzy Woj- Wojciechowski, Chairman of the Polish Medical Association. Dr. Raczek was also a long-time chairman of the Polish Medical Association founded in 2001 in San Diego. He co-organized two large charity events, the profits from which were given to the Hospice in Koszalin and the Social Care Home for Children in the Rzeszowskie region.

For this activity in 1998, Dr. Stanley Raczek received the highest distinction of the Polish Medical Association: the Gloria Medicinae Medal (Fig. 7.), and in 2007, the Polish president, Lech Kaczyński, awarded him with the Knight's Cross of the Order of Merit of the Republic of Poland (Fig. 8).


POLSKIE TOWARZYSTWO LEKARSKIE
SOCIETAS MEDICA POLONA

KAPITUŁA MEDALU

GLORIA MEDICINAE

Za ofiarną służbę ludziom, za najwyższy szacunek dla zdrowia i życia ludzkiego, za sumienne i godne wykonywanie sztuki leczenia, za podtrzymywanie honoru i szlachetnych tradycji stanu lekarskiego, za tworzenie nieprzemijających wartości dla dobra Polskiego Towarzystwa Lekarskiego
— Kapituła Medalu **GLORIA MEDICINAE** przyznaje to najwyższe odznaczenie

Stanley Raczek

Concilium ordinis insignis **GLORIA MEDICINAE** decrevit ornamentum hoc ei honorem merito atque optimo iure eis contingi, qui neque labores nec incommoda recusantes salutis et vitae humanae diligentissimi tutores omnia medicinae ministeria conscientia optima et honeste facitare studeant qui dignitatem mores praeceptaque usu recepta in medicina profitenda observent quique ipsi operibus egregiis praebent sese virtutum et artis nova firmaque specimina ad imitandum proposita.

Sekretarz
A secretis

Kanclerz
A diplomatibus

Figure 7. The *Gloria Medicinae Medal* awarded to Dr. Stanley Raczek by the Polish Association of Physicians, March 20,1998
Rycina 7. Medal *Gloria Medicinae* przyznany doktorowi Stanleyowi Raczkowi przez Polskie Towarzystwo Lekarskie 20 marca 1998 r.


POSTANOWIENIEM
z dnia 10 sierpnia 2007 r.

Pan Stanley W.
RACZEK

odznaczony został

KRZYŻEM KAWALERSKIM ORDERU ZASŁUGI RZECZYPOSPOLITEJ POLSKIEJ

PREZYDENT RZECZYPOSPOLITEJ POLSKIEJ

Lech Kaczyński

Figure 8. The Knight's Cross of the Order of Merit of the Republic of Poland awarded to Dr. Stanley Raczek by the President of the Republic of Poland Lech Kaczyński, Aug. 8, 2007
Rycina 8. Krzyż Kawalerski Orderu Zasługi Rzeczypospolitej Polskiej przyznany doktorowi Stanleyowi Raczkowi przez Prezydenta RP Lecha Kaczyńskiego 10 sierpnia 2007 r.

Retired Commander Stanley W. Raczek and his wife Maria still live in San Diego. They have very good memories of their contacts with Polish military psychiatrists, and enjoy reminiscing about our common achievements. They are also proud of the success of their daughter Katherine, a specialist in emergency medicine, Assistant Professor at the Department of Emergency Medicine UT Health San Antonio, Texas (Fig. 9).

Figure 9. Dr. Stanley Raczek with his wife Maria and daughter Katherine, Christmas 2010
Rycina 9. Doktor Stanley Raczek z żoną Marią i córką Katherine, Boże Narodzenie 2010

With his actions, Commander Stanley W. Raczek proved that even living abroad, one can serve Poland. May this article, together with the thoughts of Dr. Raczek published in this issue of *Military Physician* [1], be included in the chronicle of over 200 years of *pro bono* co-operation of Polish and American military physicians [9].

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Reflections of a "Traitor"

Refleksje „zdrajcy"

Stanley W. Raczek

Manor Ridge Lane, San Diego, California 92130

Abstract Stanley W. Raczek, CDR (ret.), MC, USN, one of the initiators of Polish-American military psychiatric cooperation describes in his article, titled somewhat perversely "Reflections of a 'Traitor'", the circumstances of his emigration to the United States and his service as a military psychiatrist in the US Navy. He explains his motives to renew contacts with his native country in the early 1990s and his various activities in this area particularly his involvement in the development of the collaboration between Polish and American military psychiatrists. He describes introduction of new approaches to the diagnosis and treatment of psychiatric disorders related to combat stress, particularly with the use of virtual reality (VR) in the treatment of Post-Traumatic Stress Disorder (PTSD). The author chronologically describes the themes and participants of three Polish-American scientific symposia that took place between 1998 and 2001 in Warsaw, Krakow and San Diego. Dr. Raczek describes his role in organizing of 2007 workshops about VR-supported PTSD therapy in Warsaw under the direction of Prof. Brenda K. Wiederhold and Dr. James Spira; both world-renowned experts in this field. Multiple recognitions of these activities, among them the highest medal of the Polish Medical Association, "Gloria Medicinae" and the "Knight's Cross of the Order of Merit of the Republic of Poland" proved to the author that he was not a "traitor" and in fact served Poland well, even while living outside of his homeland.
Keywords: combat stress, military psychiatry, treatment of PTSD

Streszczenie. Dr. Stanley W. Raczek, komandor US Navy w stanie spoczynku, jeden z inicjatorów polsko-amerykańskiej współpracy w dziedzinie psychiatrii wojskowej, w artykule zatytułowanym przekornie „Refleksje «zdrajcy»" przedstawia okoliczności swojej emigracji do Stanów Zjednoczonych Ameryki i służby w Amerykańskiej Marynarce Wojennej na stanowisku lekarza psychiatry. Przedstawia motywy odnowienia kontaktów z ojczystym krajem na początku lat 90. oraz obszary swojej wielostronnej aktywności na tym polu, zwłaszcza zaangażowanie w rozwój kontaktów polskich i amerykańskich psychiatrów wojskowych. Pisze o wdrażaniu nowoczesnych form diagnostyki i leczenia zaburzeń psychicznych związanych ze stresem bojowym, w szczególności o zastosowaniu technologii wirtualnej rzeczywistości (VR) w leczeniu zespołu stresu pourazowego (PTSD). Przedstawia chronologicznie tematykę oraz uczestników trzech polsko-amerykańskich sympozjów naukowo-szkoleniowych, które odbyły się wiatach 1998-2001 w Warszawie, Krakowie i San Diego. Omawia swoją rolę w organizowaniu warsztatów terapii PTSD wspomaganej VR w 2007 r. w Warszawie, pod kierunkiem prof. Brendy K. Wiederhold i dr. Jamesa Spira - specjalistów o światowej renomie w tej dziedzinie. Liczne wysokie wyróżnienia za tę działalność, m.in. najwyższym odznaczeniem Polskiego Towarzystwa Lekarskiego „Gloria Medicinae" oraz Krzyżem Kawalerskim Orderu Zasługi Rzeczpospolitej Polskiej, pozwalają autorowi wierzyć, że nie był „zdrajcą" i że nawet żyjąc poza krajem, dobrze służył Polsce.
Słowa kluczowe: psychiatria wojskowa, stres bojowy, leczenie PTSD

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When I graduated from the doctoral programme in spring 1975, I went to the Department of Psychiatry at the Wrocław Medical University to give the manuscript of my doctoral dissertation to Prof. B., who was the head of the department, and to sign an employment contract, only to find out that my job was given to a “fresh” graduate of the Medical University, son of Prof. M., the first secretary of the party Organization at the school. I had to move out from the Doctoral Dormitory in the Biskupin district within 24 hours. I was at once unemployed and homeless. I was in a state of shock, as I was not prepared for such turn of events, and did not know what to do. In these circumstances, my wife and I decided to take a short holiday in Turkey. We did not return to Poland from this trip. On our way back, we stayed in Vienna, where, following six months spent in a refugee camp in Traiskirchen near Vienna, we received political asylum in the USA. In March 1976, we landed in New York.

As we did not speak English, did not have money and did not know anyone there, those first years of our emigration experience in the States were not easy. However, we did not complain, but enjoyed the freedom and looked to the future with optimism. My wife got a job in a big clothes company in Manhattan, and I was employed as "doctor's assistant" (office job) in a private radiology office in Brooklyn. As soon as I saved some money, I bought two books: a Polish-English dictionary and an American medical textbook for foreign doctors. Having passed the nostrification exams (E.C.F.M.G. in 1977 and FLEX in 1978), I started a 4-year psychiatry residency at Beth Israel Medical Center in Manhattan (foreign residency programmes are not recognised in the USA). We slowly started to build our life in the USA, but the thought that we could never go back to Poland, see our parents or siblings, was difficult to accept. The appointment in 1978 of John Paul II, the Polish Pope, gave us an idea, although it was risky. We learned that the Polish communist government, be it unwillingly, allowed older, "nonproductive" citizens to go on a pilgrimage to the Vatican to see the Polish pope. We hoped that our parents could get to Rome, where we could meet them. The only way to implement this plan was to join the US Navy, as they had a military hospital in Naples.

Before I completed my residency programme at Beth Israel Medical Center, I contacted the US Navy Recruitment Office in New York. I filled out the required documents, passed the practical exam at the Bethesda Medical Centre, Maryland, and after my residency (1982) I was assigned to the Naval Medical Center in Portsmouth, Virginia (the only position for a psychiatrist in Naples was already assigned to another doctor for the following four years). I have very good memories from my 4-year stay at Portsmouth. I learned the ropes of military psychiatry, made many friends, and our first (and only) daughter Kasia was born there. In 1986, we left Virginia, with a nearly 2-year-old child, to go to Italy, Bella Napoli.

We were delighted by Naples, its monuments and the hospitality of its citizens. Growing up, Kasia spoke three languages: she went to an American kindergarten, where she used English, she played with Italian children, who taught her Italian, and at home we spoke Polish. However, our parents' visit to Italy was still a great unknown. Our patience was finally rewarded: after several years of waiting, as my parents came to Naples, invited by our Italian friends. Nevertheless, my wife and I could not even dream about going to Poland.

By joining the US Navy I realised that I was burning all the bridges, and practically could never go back to my country. The security officer from Milicz who had given us the passports for the trip to Turkey, sent us threats, saying that if I ever decided to come to Poland, I would be on trial for "betraying the homeland", and that I could be sent for "a long holiday to Siberia" (after graduating from a medical university in Poland, like all university graduates in the country, I received the rank of corporal in the Polish People's Army), and that in the USA I had joined "hostile" armed forces.

The situation changed in 1991, when the communist system started to collapse. Sixteen years after I had left Poland, I decided to visit my country. From Naples, where I served as a psychiatrist in the American Military Hospital, my journey to Poland was one of great anxiety. I was afraid that the communists, who had not given up all the power, would recall my "treason" and send me on that "long holiday" to Siberia. However, the need to see my family, friends, whom I had left without saying goodbye, and especially the need to see the mountains of my home region, Beskid Żywiecki, was stronger than the fear of revenge on the part of the few "surviving communists". The first visit in Poland, after such long absence, was an unforgettable experience. My family, already accepting the fact they would never see me in Poland, were very happy.

In October 1993, the Association of Polish Psychiatrists and Neurologists in America (APPNA), which I co-founded, organized the first educational and informational visit of American psychiatrists of Polish origin to Poland. The group included Maria Paluszny MD, PhD from Michigan, Stanisław Golec MD, PhD from Detroit and me. We visited a number of psychiatric centres, presenting the problems of American psychiatry, as well as our Organization and its goals. In Łódź, we were invited by COL Prof. Antoni Florkowski, then the commandant of the Institute of Mental Hygiene at the Military Medical Academy (IHP WAM) to visit this facility. After the official meeting of the American delegates with the personnel of the institute, we were invited to Prof. Florkowski's office, where he gave me a symbolic gift: a Polish Army lieutenant colonel's four-cornered cap (Fig. 1). I realised that my Polish colleagues did not see me as a traitor, and that I could feel safe in Poland. This motivated me to engage in the active Organization of collaboration between American and Polish military psychiatrists.

In June 1998, four American military physicians, including three psychiatrists, visited Poland: CAPT Michael Bailey - Deputy Head of the Psychiatry Department at Naval Medical Center in San Diego (NMCSD); COL George Pierożyński - a psychiatrist, retired colonel of the US Army; CDR Stanley W. Raczek - Head of the Psychiatric Healthcare Services at the US Naval Hospital Naples, Italy). The American delegation was led by CAPT Albert Shimkus, Deputy Head of the Naval Hospital in Naples. The Polish organisers of the meeting in Warsaw were COL Prof. Eugeniusz Dziuk -

Figure 1. COL Prof. A. Florkowski, assisted by COL Prof. A. Araszkiewicz hands a Polish Forces lieutenant colonel's four-cornered cap to CDR S.W. Raczek, IHP WAM in Łódź, 11 Oct. 1993
Rycina 1. Płk prof. A. Florkowski, w asyście Płk prof. A. Araszkiewicza, wręcza CDR S.W. Raczkowi rogatywkę podpułkownika WP, IHP WAM w Łodzi, 11.10.1993 r.

Commandant of the Central Clinical Hospital, Military Institute of Medicine (CSK WAM) and COL Stanisław Ilnicki MD, PhD - Head of the Mental Health Clinic (PZP) at the Central Clinical Hospital, Military Institute of Medicine (Fig. 2).

The topics discussed during the Warsaw meeting included: "Psychological and medical aspects of using chemical and biological weapons on the modern battlefield" (CAPT A. Shimkus), "Gulf war syndrome" (CAPT M. Bailey), "Treatment of depressive disorders in the US Armed Forces" (CDR S.W. Raczek).

Next, the American physicians visited Krakow. On 10 June, the First Symposium of Polish and US Military Psychiatrists took place. It was organized by COL Prof. Antoni Florkowski and COL Prof. Wojciech Gruszczyński from the Institute of Mental Health, Military Medical University in Łódź. The meeting in Krakow was officially opened by the Chief of the Healthcare in the Polish Army, COL Andrzej Trybusz MD, PhD, who emphasised the

Figure 2. Visit of US military physicians to the CSK WAM in Warsaw; (from left) COL Prof. W. Marczyński, COL G. Pierożyński, CDR SW Raczek, COL Prof. E. Dziuk, CAPT A. Shimkus, COL S. Ilnicki, CAPT M. Bailey, 8 June 1998
Rycina 2. Wizyta delegacji amerykańskich lekarzy wojskowych w CSK WAM w Warszawie; (od lewej) Płk prof. W. Marczyński, COL G. Pierożyński, CDR S.W. Raczek, Płk prof. E. Dziuk, CAPT A. Shimkus, Płk S. Ilnicki, CAPT M. Bailey, 8.06.1998 r.

Figure 3. The head of the delegation of US physicians, CAPT A. Shimkus, hands the *Top Gun* trophy cap to the Chief Physician of the Polish Armed Forces COL A. Trybusz MD, PhD, Krakow, 10 June 1998
Rycina 3. Przewodniczący delegacji lekarzy amerykańskich CAPT A. Shimkus wręcza Szefowi Służby Zdrowia WP Płk dr. med. A. Trybuszowi czapkę-trofeum *Top Gun,* Kraków 10.06.1998 r.

importance of collaboration between the Polish and American Medical Services (Fig. 3).

During the conference, the following topics were discussed: "Tasks, potential and organizational structure of Polish military psychiatry at the time of organization of the armed forces" (COL A. Florkowski); "Organization and goals of the American military psychiatry" (CDR S.W. Raczek); "Psychiatric and psychological aspects in mass catastrophes and emergency threats" (COL J. Kocur), "Special Psychiatric Rapid Intervention Teams - an American experience" (CAPT M. Bailey); "Current problems in military psychiatric adjudication" (COL S. Ilnicki) and "Providing psychiatric assistance on the modern battlefield based on the experience of US military psychiatrists" (COL G. Pierożyński) (Fig. 4).

Figure 4. Participants of the 1st Symposium of Polish and US Military Psychiatrists in Krakow, 10 June 1998
Rycina 4. Uczestnicy I Sympozjum Psychiatrów Wojskowych Polski i Stanów Zjednoczonych AP w Krakowie, 10.06.1998 r.

The second Polish-American conference of military psychiatrists took place in October 1999 in San Diego, USA. The Polish delegation was represented by COL A. Florkowski, COL S. Ilnicki, COL W. Gruszczyński and MAJ Z. Wawrzyniak. On the American side, the conference was organized by RADM Alberto Diaz, CAPT M. Bailey and CDR S.W. Raczek (Fig. 5).

Figure 5. Visit of Polish military psychiatrists to the USNMC San Diego; (from left) MAJ Z. Wawrzyniak, COL S. Ilnicki, COL A. Florkowski, CAPT M. Bailey, COL W. Gruszczyński, 9 Oct. 1999
Rycina 5. Wizyta polskich psychiatrów wojskowych w USNMC San Diego; (od lewej) Mjr Z. Wawrzyniak, Płk S. Ilnicki, Płk A. Florkowski, CAPT M. Bailey, Płk W. Gruszczyński, 9.10.1999 r.

As I was still working in Naples at that time, I asked my friends in San Diego for help in organizing the conference. I received invaluable assistance from Prof. Janusz Supernak, Chairman of the San Diego-Warsaw Sister City Association; Zofia Dziewanowska PhD, a psychiatrist, head of the medicine and science committee in the association; Jerzy Barankiewicz PhD, Chairman of the Polish Art Salon in San Diego and from many other people. My sincere thanks go to all of them. The topics discussed during the conference included "Evaluation of character traits in candidates for military service"; "Advances in pharmacological treatment of depression and their effect on the treatment of affective disorders by US military psychiatrists"; "Autoaggressive behaviours in military personnel with minimal cerebral damage"; "Evaluation of the psychopathological factors in the aetiology of suicidal behaviours in the Polish Army"; "Telemedicine in psychiatry"; "Forensic psychiatric assessment of perpetrator of typically military offences in the Polish Army"; "Difficulties with adaptation to military service and childhood psychopathology".

During their stay in San Diego, the representatives of the Polish delegation and their wives had an opportunity

Figure 6. Visit to the USNS Mercy hospital ship; lunch in the wardroom, San Diego 21 Oct. 1999
Rycina 6. Wizyta na statku-szpitalu USNS Mercy; przyjęcie w sali reprezentacyjnej szpitala, San Diego 21.10.1999 r.

Figure 7. Visit to St. Maximilian Kolbe Roman Catholic Polish Mission in San Diego, 24 Oct. 1999
Rycina 7. Wizyta w Polskiej Misji Rzymskokatolickiej św. Maksymiliana Kolbe w San Diego, 24.10.1999 r.

to visit NMCSD, one of the biggest modern military hospitals in the USA, as well as USNS Mercy, one of two American ship hospitals (Fig. 6), the biggest American aircraft carrier USS John M. Stennis, and one of the most renowned civilian research centres in California - University California San Diego (UCSD). Moreover, they met with the representatives of the Polish diaspora Organizations in San Diego: Polish Art Salon, Polish Cultural Centre and Maximilian Kolbe Roman Catholic Polish Mission in San Diego (Fig. 7), as well as the San Diego - Warsaw Sister Cities Association (Fig. 8). The military psychiatrists from Poland were made very welcome by the American military physicians and by the representatives of Polish diaspora in San Diego.

The third Polish-American symposium of military psychiatrists, similarly to the first one, comprised two parts: one in Warsaw (10-11 September 2001), and the second one in Krakow (14 September 2001). The US delegation was represented by NMCSD officers: RADM Alberto Diaz - Commandant of the Centre, CAPT Michael Bailey - Head of the Psychiatry Department at NMCSD, CDR Stanley Raczek - a psychiatrist, CAPT Sonia Menenberg - Head of the Department of Psychiatric Nursing, James Spira, PhD - a psychologist and Mrs Ula Tazu - a psychiatric social worker (Fig. 9). The principal organizers of the meeting in Warsaw were Commandant of the Central Clinical Hospital of the Military Medical Academy, COL Prof. Eugeniusz Dziuk, COL Prof. Marek Maruszyński and COL Stanisław Ilnicki, Head of the Mental Health Clinic at the Central Military Hospital, Military Medical Academy.

On the first day of the conference (10 September), the following presentations were shown at the hospital at Szaserów Street: “Military service as a source of hazard to soldiers’ mental health”, “Suicide prevention in the American army”, “Psychological selection and

Figure 8. Meeting with Mrs. Alejandra Galvanos, Protocol Officer of the Mayor of San Diego - the Warsaw's sister-city, Mrs. Susan Golding, 20 Oct. 1999
Rycina 8. Spotkanie z Panią Alejandra Galvanos, oficerem protokołu burmistrza San Diego - miasta siostrzanego Warszawy, Pani Susan Golding, 20.10.1999 r.

psychoprophylaxis in the Polish Armed Forces”, “Prevention of alcohol abuse in the US Armed Forces”, “Psychoprophylaxis and health promotion in organic mental disorders in the army”, “Prevention and treatment of chronic pain”, “Psychoeducation in the army”, “Psychoprophylaxis and health promotion in psychosomatic disorders in soldiers”, “Therapy of Posttraumatic Stress Disorder (PTSD)”, “Autoaggressive behaviours in soldiers and the possibility of psychoprophylaxis”, “The role of critical stress decompression in maintaining the effectiveness of the army and in preventing PTSD”, “Psychoprophylaxis and health promotion in adaptive disorders in soldiers”. On the same day in the evening, the ceremony of signing the Letters of Intent took place between the Central Clinical Hospital of the Military Medical Academy and the US Naval Medical Centre in San Diego, USA. On behalf of

Figure 9. Visit of a delegation of physicians from the USNMC San Diego to the CSK WAM in Warsaw; (from left) CDR S.W. Raczek, RADM A. Diaz with his wife, COL Prof. E. Dziuk, CAPT M. Bailey, Mrs Ula Tazu, COL S. Ilnicki, 9 Sept. 2001

Rycina 9. Delegacja lekarzy USNMC San Diego w CSK WAM w Warszawie; (od lewej) CDR S.W. Raczek, RADM A. Diaz z małżonką, Płk prof. E. Dziuk, CAPT M. Bailey, Mrs Ula Tazu, Płk S. Ilnicki, 9.09.2001 r.

Figure 10. Signing of the Letters of Intent on collaboration between the CSK WAM in Warsaw and NMC San Diego by RADM A. Diaz and COL Prof. M. Maruszyński, 10 Sept. 2001

Rycina 10. Podpisanie Listów intencyjnych o współpracy CSK WAM w Warszawie i USNMC San Diego przez RADM A. Diaza i Płk prof. M. Maruszyńskiego, 10.09.2001 r.

the Polish partner, the document was signed by COL Prof. Marek Maruszyński, Commandant of the Central Clinical Hospital, Military Medical Academy, and on the American side it was signed by RADM Alberto Diaz, Commandant of the Medical Centre in San Diego (Fig. 10). In the Letters of Intent the signees promised to "explore avenues of possible cooperation in the areas of mutual interest with regard to the advanced practice of medicine, medical training, clinical research and exchange of medical information".

The second day of the Warsaw conference was dedicated to the training of Polish psychiatrists and psychologists on rapid psychiatric interventions during mass catastrophes. The Polish participants were very

Figure 11. Lecturers of the 3rd Symposium of Polish and US Military Psychiatrists; (from left) CAPT S. Menenberg, Mrs U. Tazu, CAPT M. Bailey, M. Spira, PhD, CDR S.W. Raczek, 11 Sept. 2001

Rycina 11. Wykładowcy warsztatów III Sympozjum Psychiatrów Wojskowych Polski i Stanów Zjednoczonych AP; (od lewej) CAPT S. Menenberg, Mrs U. Tazu, CAPT M. Bailey, M. Spira, PhD, CDR S.W. Raczek, 11.09.2001 r.

interested in the training and took active part in it (Fig. 11-12).

The time to say goodbye to the welcoming hosts came; after the group photograph was taken, we returned to Hotel Belwederski. On our way there we found out from the radio news that in Manhattan, New York, a passenger airplane had flown into one of the over 100-story towers of the World Trade Center building. In the hotel lobby we stared, shocked, at the TV screen, watching the second WTC building collapse. There was no doubt that it was a terrorist attack, not an ordinary aviation accident. Admiral Diaz called the American embassy asking for directions as to our further actions. After many attempts to contact the embassy, the military attaché took the call and suggested that we keep a "low profile", i.e. stay in the hotel, do not wear uniforms, do not speak English in public places and wait for further instructions. Not without effort, I convinced the admiral that Poles were not anti-American, and that there were no anti-American terrorists among them. In the evening we went to the American embassy, where many Warsaw citizens gathered, placing flowers and lights by the gate. We were moved by the spontaneous reaction of Polish people to this tragic event (Fig. 13).

The second part of the symposium, which was supposed to take place on the following day in Krakow, was moved to 14th September. We went to Krakow by train. The organizers, with COL Prof. Antoni Florkowski and COL Prof. Wojciech Gruszczyński, understood our situation. The participants were greeted by COL Wiesław Sibiga MD, PhD, Commandant of Military Clinical Hospital No. 5 in Krakow. At the beginning, he asked all the participants to stand up and honour the victims of the terrorist attacks in New York and in Washington with a

Figure 12. Participants of the 3rd Symposium of Polish and US Military Psychiatrists in Warsaw, 11 Sept. 2001
Rycina 12. Uczestnicy III Sympozjum Psychiatrów Wojskowych Polski i Stanów Zjednoczonych AP w Warszawie, 11.09.2001 r.

minute of silence. We were moved by the compassion of our Polish colleagues (Fig. 14).

In the scientific and training part of the symposium, CAPT Michael Bailey gave a presentation on "Psychiatry in the US Navy", Mrs Ula Tazu talked about "The role of social assistance in the provision of social benefits and care after hospitalisation for military personnel and their families", and James Spira presented "Special Psychiatric Rapid Intervention Teams (SPRINT) - an American experience". In the evening, we went to the American Consulate, where - similarly as the day before in Warsaw - citizens gathered, placing flowers and candles by the gate, thus expressing their solidarity with American society. One of many hand-made posters caught my attention. It was big, held by a teenage boy, and it read: "America - we are with you". When I asked him what made him express his feelings in this way, the boy said that he had an American friend living in Manhattan, and that he worried about her. With many difficulties, we managed to return to the United States after a few days. We will remember this trip to Poland for a long time. In June 2007, after many months of preparation, following the invitation of COL Stanisław Ilnicki - the founder and head of the Department of Psychiatry and Combat Stress at the Military Institute of Medicine, with the support of the director of the Institute, COL Prof. Grzegorz Gierelak, a three-person delegation arrived in Poland to train Polish psychologists and psychiatrists on the use of an advanced technology, Virtual Reality (VR), in the treatment of PTSD. The US delegation was represented by Prof. Brenda K. Wiederhold, PhD - a co-founder of

Figure 13. In front of the US Embassy in Warsaw, Sept. 11, 2001
Rycina 13. Przed Ambasadą Stanów Zjednoczonych AP w Warszawie, 11.09. 2001 r.

Figure 14. Participants of the Krakow part of the 3rd Symposium of Polish and US Military Psychiatrists, 14 Sept. 2001
Rycina 14. Uczestnicy krakowskiej części III Sympozjum Psychiatrów Wojskowych Polski i Stanów Zjednoczonych AP, 14.09.2001 r.

Figure 15. Lecture of Prof. B. K. Wiederhold at the VR-Supported PTSD Therapy Workshop, KPiSB WIM, 8 June 2007
Rycina 15. Wykład prof. B.K. Wiederhold podczas warsztatów terapii PTSD wspomaganej VR, KPiSB WIM, 8.06.2007 r.

Virtual Reality Medical Center (VRMC) in San Diego, director of the Virtual Reality Medical Institute (VRMI) in Brussels, and world-class expert in the field of advanced computer techniques in medicine, CDR Stanley Raczek from the Military Hospital in Camp Pendleton in California - representative of the VRMC in San Diego and Training Director in Poland, and James Spira, PhD - a psychologist, specialising in the treatment of neurosis, and especially VR-supported therapy of psychosomatic neurotic disorders in soldiers. Invaluable assistance in the Organization of the training in Warsaw was offered by Ryszard Olesiński PhD, Eng. from the American-Polish Defence Co-operation Office at the American Embassy in Warsaw (Fig. 15-16). Approximately 25 people participated in the training at the hospital at Szaserów Street. The group comprised mainly employees of the Department of Psychiatry and Combat Stress, but also psychologists from military units and Fire Service emergency units. The electronic equipment brought by the American representation and used during the training was later donated to the Department of Psychiatry and Combat Stress of the Military Institute of Medicine.

December 2008 saw an event taking place in Wisła as part of the 2nd International Scientific and Training Conference “Pharmacotherapy and psychotherapy - one goal, two methods”, organized by Maciej Matuszczyk MD, PhD from the Chair and Department of Psychiatry at the Medical University in Katowice. During the conference Prof. Brenda Wiederhold gave a presentation on “The use of Virtual Reality (VR) technology in medicine”, and CDR Stanley Raczek talked about “The use of VR techniques in the treatment of PTSD and other anxiety disorders”. Professor Stanisław Ilnicki and psychologists from the Department of Psychiatry and Combat Stress – Sylwia Szymańska, Agnieszka Laskowska and Maciej Zbyszewski presented several papers on the use of VR in the diagnostics and treatment of PTSD, e.g. “The tale of a man dancing with Death”, demonstrating a fascinating case of a patient diagnosed with severe PTSD and treated, with very good outcomes, with the assistance of VR technology[4]. Discussions on the Polish history during the car journey to Wisła, the visit at the sanctuary in Jasna Góra and the Memorial and Museum Auschwitz-Birkenau in Oświęcim completed the programme of this memorable conference (Fig. 17-18).

[4] Tworus R, Szymańska S, Ilnicki S. A soldier suffering from PTSD, treated by controlled stress exposition using Virtual Reality and behavioral training. Cyberpsychol Behav Soc Networking, 2010; 13(1): 103-107;

Figure 16. Participants of the VR-Supported PTSD Therapy Workshop; in the first row (from left) Prof. B.K. Wiederhold, R. Olesiński, PhD, CDR S.W. Raczek, COL Prof. G. Gielerak, Prof. S. Ilnicki, in the second row M. Spira, PhD, and others, Warsaw, KPiSB WIM, 8 June 2007

Rycina 16. Uczestnicy warsztatów terapii PTSD wspomaganej VR; w pierwszym rządzie (od lewej) m.in. prof. B.K. Wiederhold, dr inż. R. Olesiński, CDR S.W. Raczek, Płk prof. G. Gielerak, prof. S. Ilnicki, w drugim rządzie M. Spira, PhD, Warszawa, KPiSB WIM, 8.06.2007 r.

Figure 17. Lecturers of the PTSD Therapy Workshop in Wisła; (from left) S. Szymańska, A. Laskowska, Prof. B. K. Wiederhold, Prof. S. Ilnicki, M. Zbyszewski, 10 Dec. 2008

Rycina 17. Wykładowcy warsztatów terapii PTSD w Wiśle; (od lewej) S. Szymańska, A. Laskowska, prof. B.K. Wiederhold, prof. S. Ilnicki, M. Zbyszewski, 10.12.2008 r.

Figure 18. Conference in Wisła; (from left) Prof. B.K. Wiederhold, A. Laskowska, CDR S.W. Raczek, Prof. S. Ilnicki, 11 Dec. 2008
Rycina 18. Konferencja w Wiśle; (od lewej) prof. B.K. Wiederhold, A. Laskowska, CDR S.W. Raczek, prof. S. Ilnicki, 11.12.2008 r.

Conclusion

Each contact with Polish military psychiatrists and psychologists was for me a great and unforgettable experience. My contribution to the development of the collaboration between the American and Polish psychiatry met with positive feedback from all the people I co-operated with. The proof of this recognition included the Knight's Cross of the Order of Merit of the Republic of Poland I received from the Polish President, Lech Kaczyński, the Gloria Medicinae medal of the Polish Medical Association, a commemorative medal from the Rector and Senate of the Military Medical Academy in Łódź, and many other awards and distinctions. I believe that my actions proved that I was not a “traitor”.

The presented examples of the collaboration between the Polish and American military psychiatrists should motivate Polish psychiatrists working with soldiers with emotional disorders to continue the co-operation initiated years ago, “beneficial for both organizations and will facilitate the meeting of the challenges of military medicine in the twenty-first century” (a quote from the Letter of Intent).

I would like to express my gratitude to the Directors of the Military Institute of Medicine in Warsaw: COL Prof. Eugeniusz Dziuk, Gen. Prof. Marek Maruszyński and Gen. Prof. Grzegorz Gierelak, as well as to the Commandant of Military Clinical Hospital No. 5 in Krakow, COL Wiesław Sibiga for their support for our initiatives and the invaluable help in providing accommodation, catering and transport for all the delegations of American military psychiatrists. I would also like to thank all the Polish military psychiatrists and psychologists from Warsaw, Łódź and Krakow who actively participated in the development of the co-operation between Polish and American military psychiatrists. I would like to express special gratitude to COL Prof. Antoni Florkowski and COL Prof. Wojciech Gruszczyński from the Military Medical Academy in Łódź and, in particular, to COL Prof. Stanisław Ilnicki from the Military Institute of Medicine in Warsaw, who was the driving force behind all the initiatives, and who encouraged me to write down these thoughts.