METASTASIS OF RENAL CELL CARCINOMA TO THE CHEEK IN A 73-YEAR-OLD MAN

Przerzut raka jasnokomórkowego nerki do skóry policzka u 73-letniego mężczyzny

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Abstract

Renal carcinoma accounts for 2 to 3% of all adult malignancies worldwide. Five-year survival rates in Poland are approximately 58% for both sexes. More than 70% of cases are diagnosed at an early stage. However, the remaining patients develop metastases to the lungs, liver, bones, adrenal glands or the other kidney. Cutaneous location is rare. Skin metastases account for approximately 6% of cases and have a poor prognosis. Invasive cutaneous renal cell carcinoma involving the scalp, neck, trunk, limbs and genitals has been reported in the literature. This paper presents a case of a 73-year-old man with renal carcinoma invading the skin of the cheek. The post-nephrectomy follow up includes, depending on the risk group, thoracic and abdominal computed tomography, as well as abdominal ultrasound. In this case, the tumour was found to be a metastasis, among others, to the lungs, chest lymph nodes, and the other kidney. There was no regression of the cheek metastasis after one cycle of palliative immunotherapy with ipilimumab in combination with nivolumab. The patient did not survive until the next cycle due to progression of lung metastases. According to the literature and the case described above, metastases of renal carcinoma may appear both shortly after the diagnosis and at a distant time. Typically, they occur as a single, rapidly growing tumour in any cutaneous location, which, however, is accompanied by cancer spread (single or multiple) to other organs. Therefore, given the available therapeutic options, such as the use of tyrosine kinase inhibitors, regular patient monitoring is essential. This should include not only imaging and laboratory tests, but also a thorough history focused on unusual symptoms, careful skin examination, and a decisive, prompt response to any suspicious abnormalities.

Streszczenie

Rak nerki stanowi od 2 do 3% wszystkich nowotworów złośliwych na świecie. W Polsce wskaźniki 5-letniego przeżycia wynoszą około 58% dla obu płci. Ponad 70% nowotworów nerki rozpoznaje się w stadium ograniczonym regionalnie. W pozostałych przypadkach występują przerzuty do płuc, wątroby, kości, nadnerczy lub drugiej nerki. Umiejscowienie przerzutów w skórze jest rzadkością – stanowią one około 6% przypadków i wiążą się złym rokowaniem. W literaturze opisywano przerzuty raka nerkowokomórkowego w obrębie skóry głowy, szyi, tułowia, kończyn oraz narządów płciowych. W niniejszej pracy przedstawiono przypadek 73-letniego mężczyzny z przerzutem raka nerki do skóry policzka. Guz towarzyszył chorobie rozsianej do płuc, węzłów chłonnych klatki piersiowej oraz przerzutowi do drugiej nerki. Zgodnie z aktualnymi zaleceniami pacjent po nefrektomii z powodu raka nerkowokomórkowego powinien pozostawać pod kontrolą, obejmującą – w zależności od grupy ryzyka – tomografię komputerową klatki piersiowej i jamy brzusznej oraz ultrasonografię jamy brzusznej. Jak się okazało, w opisywanym przypadku guz towarzyszył chorobie w stadium rozsiewu, m.in. do płuc. Po jednym cyklu paliatywnej immunoterapii ipilimumabem w skojarzeniu z niwolumabem nie stwierdzono regresji zmiany na policzku, a pacjent zmarł przed podaniem kolejnego cyklu z powodu progresji przerzutów do płuc. Jak wynika z piśmiennictwa oraz przedstawionego przypadku, przerzuty tego nowotworu mogą wystąpić zarówno w niedługim czasie po rozpoznaniu nowotworu, jak i wiele lat później. Zazwyczaj mają postać pojedynczego, szybko rosnącego guza w dowolnej lokalizacji skóry, który jednak towarzyszy przerzutom (pojedynczym lub mnogim) w innych narządach. Mając na uwadze dostępność terapii, jak choćby inhibitorów kinazy tyrozynowej, tak ważna jest okresowa kontrola chorego, obejmująca nie tylko badania obrazowe i laboratoryjne, ale również wywiad dotyczący nietypowych dolegliwości oraz badanie skóry, a także zdecydowane, szybkie reagowanie na wszelkie podejrzane zmiany.

Keywords: renal cell carcinoma; clear cell carcinoma; skin metastases; unusual sites of metastasis; cutaneous metastases of renal carcinoma

Słowa kluczowe: rak nerki; rak jasnokomórkowy; przerzuty do skóry; przerzut raka o nietypowym umiejscowieniu; przerzut raka nerki do skóry

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Introduction

Renal cancer accounts for approximately 2–3% of all adult malignancies worldwide. Its incidence peaks in the seventh decade of life and, similar to mortality, increases linearly with age [1, 2]. In Poland, renal cancer ranks ninth in men and tenth in women, with a slightly higher prevalence among men. The five-year survival rate is approximately 58% for both sexes [2]. Currently, the vast majority of renal cell carcinomas (over 70%) are diagnosed at a regional stage [1]. In the remaining patients, distant metastases are detected, most commonly in the lungs, liver, bones, adrenal glands, or the contralateral kidney approximately 6% of all cases and associated with a poor prognosis. Cases of renal cell carcinoma (RCC) involving the skin of the head and neck, trunk, limbs, and genitals have also been described [3].

The aim of this paper was to present a case of a man with a distant metastasis of clear cell renal carcinoma to the skin of the cheek.

Case report

A 73-year-old man presented to the Department of Oncology for his initial visit in early 2025 due to a rapidly growing exophytic tumour on the right cheek. The lesion is shown in Figurew. 1.

According to the patient's history and medical records, he underwent left-sided nephrectomy in 2018 for a 4.5-cm tumour located in the lower part of the renal hilum, which was diagnosed as clear cell renal carcinoma (ccRCC).

During the visit, the patient reported an unintended weight loss of approximately 15 kg over the preceding six months.

He denied any prior mole or trauma in the cheek region.

The bright red exophytic, friable and easily bleeding lesion with a bluish base was located slightly posterior to the right oral commissure. Its appearance was inconsistent with that of a primary cutaneous neoplasm, typical granulation tissue, or a purulent/inflammatory lesion.

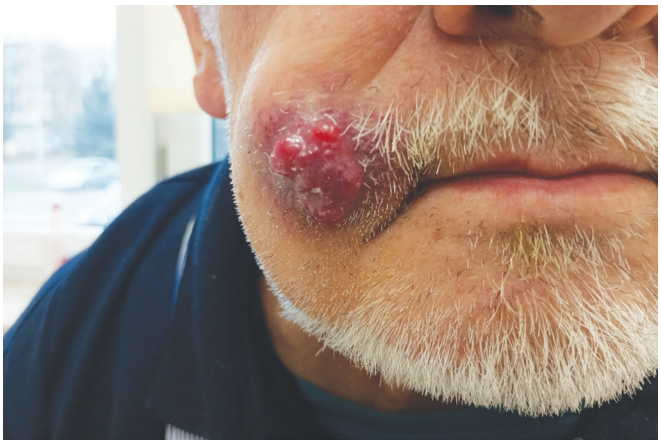

Fig. 1. Renal cancer metastasis to the cheek in the described patient. Image taken by K. Winiarz

The buccal mucosa was not involved, and there was normal salivary flow.

The patient exhibited no trismus, and palpation of the regional head and neck lymph nodes revealed no lymphadenopathy.

Computed tomography (CT) performed several months after nephrectomy revealed multiple small pulmonary nodules of up to 7 mm, whose appearance remained stable compared with the previous scan. Additionally, a new 4 mm nodule was identified in the left lung, along with two 3-mm and 4-mm nodules in the right lung. No lymph nodes showed features suggestive of malignant involvement.

Another CT scan, performed four years later (in June 2023), demonstrated nodular lesions within the lung parenchyma consistent with metastatic disease, including a 19-mm and a 33-mm nodule in the right and the left lung, respectively. Enlarged, suspicious lymph nodes were also identified: a 12-mm right axillary lymph node and a 19-mm mediastinal lymph node.

During the initial visit in January 2025, a biopsy of the cheek tumour was obtained, and the routinely scheduled CT of the chest, abdomen, and pelvis was expedited and performed in an urgent mode.

At the subsequent visit, the histopathological report confirmed a tumour partially composed of cells with clear cytoplasm and demonstrating the PAX8(+) and RCC(–) immunophenotype. Along with clinical findings, this supported the diagnosis of metastatic dissemination of RCC.

The subsequent contrast-enhanced CT scan (performed despite the patient having a solitary kidney, due to clinical necessity) revealed multiple nodular metastatic lesions in both lungs: a 65-mm, 53-mm, and 48-mm tumour in the middle, right lower, and left lower lobe, respectively. Multiple pathological lymph nodes were also identified in the mediastinum, including right paratracheal nodes measuring up to 29 mm, subcarinal nodes of up to 24 mm, and hilar nodes of up to 22 mm). The axillary lymph nodes were not enlarged. No pleural effusion was observed. A 20-mm hypervascular nodule was identified in the upper pole cortex of the right kidney, raising suspicion of either a primary renal cell carcinoma or a metastatic RCC. The right kidney was of normal size, with no additional suspicious foci or signs of urinary obstruction. No abnormalities were detected in the left renal bed. The liver was slightly enlarged, while the gallbladder, pancreas, and adrenal glands exhibited no focal abnormalities. Several nonspecific small hypodense lesions of up to 10 mm were found in the spleen. No abdominal lymphadenopathy was detected; however, a trace amount of fluid was present in the pelvis. No suspicious osseous lesions were identified. Urinalysis was unremarkable, and complete blood count revealed mild anaemia.

It was decided during multidisciplinary consultation that the patient be referred for palliative systemic therapy. Given its size and the overall extent of the disease, the cheek metastasis was not excised, with the expectation that systemic treatment might induce at least partial regression.

The patient received one cycle of immunotherapy with nivolumab at 3 mg/kg in combination with ipilimumab at 1 mg/kg. Unfortunately, there was marked progression of pulmonary lesions during this period, and the patient passed in early March 2025. No partial regression of the cheek metastasis was observed.

Discussion

The aim of this study was to present a case of a man with a distant ccRCC metastasis to the cheek, a rare dissemination site for this particular malignancy. The lesion was identified in the setting of advanced systemic spread to the lungs and lymph nodes. Many literature reports describe the most common sites for RCC metastasis. Dudani et al. assessed 10,105 cases of metastatic kidney cancer. Clear cell renal cell carcinoma is most likely to give metastases to the lungs (70%), lymph nodes (45%), bones (32%), liver (18%), and adrenal glands (10%). However, the distribution of metastatic sites differed among histologic subtypes. Pulmonary, adrenal, cerebral, and pancreatic involvement was more common in ccRCC than in other subtypes, whereas nodal involvement was more common in papillary RCC (pRCC). Liver metastases were more likely to occur in the chromophobe subtype (chrRCC) [5].

Hamid et al. described a case of a 54-year-old man who developed an early subcutaneous RCC metastasis, identified three months after the initial diagnosis. The lesion progressed without pain or skin discolouration. Excisional biopsy confirmed metastatic disease, and the patient was put on pazopanib (tyrosine kinase inhibitor). After one month of therapy, ulceration developed at the tumour site, which subsequently healed. Treatment with tyrosine kinase inhibitor resulted in a partial, durable response in this case, despite the absence of continuous therapy [6].

Anzalone et al. assessed Mohs micrographic surgery (offering precise microscopic control of the entire tumour margin) as an excision technique for cutaneous metastases arising from various malignancies. The authors concluded that this rarely used approach proved effective in their patient presenting with a solitary cutaneous RCC metastasis involving the occipital region. There was no recurrence of the lesion during the two-year follow-up period; however, the patient ultimately passed as a result of progressive systemic disease. The authors proposed that, in carefully selected cases, surgical excision of isolated cutaneous metastases could be considered as an additional indication for Mohs surgery [4].

Kassam et al. reported a case of a 68-year-old woman with a pulsatile, centrally elevated, hard reddish-purple lesion approximately 4 cm in diameter, located on the skin of the left parietal region. The lesion was enlarging but otherwise asymptomatic. The patient had a prior diagnosis of RCC. The differential diagnosis included haemangioma, basal cell carcinoma, and a cutaneous horn. Head CT showed no bone involvement, while laboratory tests showed hypercalcaemia (2.95 mmol/L) and anaemia (7.2 g/dL). These findings strongly suggested that the scalp lesion represented a distant RCC metastasis. The tumour was surgically excised, with histopathology confirming metastatic RCC [3].

In their recommendations on post-treatment surveillance for solid malignancies, Jassem et al. note that there is no evidence that any follow-up strategy improves outcomes in RCC patients who have undergone radical surgery. Post-radical treatment surveillance should be tailored to the patient's risk of recurrence, as determined by validated nomograms incorporating the TNM staging system, symptoms at diagnosis, and tumour advancement. It should also be emphasized that the lungs are the most common site of RCC metastasis; therefore, chest imaging should be performed alongside abdominal assessment [7].

Conclusions

The aim of this study was to describe a case of a 73-year-old man with a distant RCC metastasis to the cheek. Cutaneous RCC metastases are rare (approximately 6% of cases) and are associated with a poor prognosis [3, 4]. As demonstrated by both literature data and the present case, such metastases may develop shortly after diagnosis or many years later. These lesions typically present as solitary, rapidly growing tumours at any cutaneous site and are often accompanied by single or multiple metastases to other organs. Given the available therapeutic options, such as tyrosine kinase inhibitors, regular patient follow-up is essential. Surveillance should include not only imaging and laboratory work-up, but also careful evaluation of any new or unusual symptoms and thorough skin examination, with prompt and decisive action in response to any suspicious abnormalities.

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