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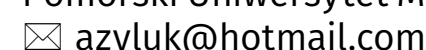
Metastasis of renal cancer to the wrist and hand: a case report

Przerzut raka nerki do nadgarstka i ręki – opis przypadku

Andrzej Żyluk ✉, Piotr Janowski

Pomorski Uniwersytet Medyczny w Szczecinie, Klinika Chirurgii Ogólnej i Chirurgii Ręki, ul. Unii Lubelskiej 1, 71-252 Szczecin



✉ azyluk@hotmail.com

ABSTRACT

Metastases to the hand and wrist are rare. The lung, breast and kidneys are the most common sites of primary lesions that metastasize in the hand. Phalanges are more commonly involved than metacarpals and wrist.

We report the case of a neglected, large metastatic tumour involving a patient's left wrist and metacarpus originating form renal adenocarcinoma cancer, which appeared 2 years prior to the diagnosis of the primary neoplasm. The tumour was resected, but without oncologic margins. After obtaining histological verification (clear cell renal cell carcinoma) the patient had been proposed amputation, but he refused and was given chemotherapy. Imaging towards possible other distant metastases (CT and PET scanning) was negative. At 6 months follow-up the patient showed good general condition, no local recurrence, and regained some hand function.

Keywords: renal cancer; metastasis to the bone; metastasis to hand.

ABSTRAKT

Przerzuty nowotworowe do ręki występują bardzo rzadko. Najczęstszym źródłem takich przerzutów są raki płuca, sutka i nerek, a najczęstszą lokalizacją – paliczki dalsze palców, kości śródręcza i nadgarstka.

W pracy przedstawiono przypadek zaniedbanego, znacznych rozmiarów przerzutu raka nerki do lewej ręki, obejmującego nadgarstek i śródręcze, który został przez chorego zauważony 2 lata przed rozpoznaniem choroby podstawowej (raka nerki). Guz został wycięty, jednak bez marginesów onkologicznych. Po uzyskaniu weryfikacji histopatologicznej (rak jasnokomórkowy nerki) pacjentowi zaproponowano amputację ręki, na którą nie wyraził zgody, więc został poddany chemioterapii. Badania obrazowe (TK i PET) nie wykazały innych przerzutów odległych. W badaniu po 6 miesiącach od operacji pacjent był w dobrym stanie ogólnym, bez objawów wznowy lokalnej i z umiarkowanie dobrą czynnością operowanej ręki.

Słowa kluczowe: rak nerki; przerzut do kości; przerzut do ręki.

INTRODUCTION

The involvement of bone and soft tissue of the hand in metastatic tumours is rare (about 0.1% incidence), and skeletal metastases are more common than those to the soft tissue. The most common origin of metastasis to the hand is lung, followed by kidney, breast, colon, and stomach cancers [1, 2]. Typical presentation of hand metastasis includes a palpable mass, but in an early stage it may be only occasional pain in the hand or wrist, mild swelling or dysfunction [3, 4, 5]. Sometimes hand metastases may mimic infectious tumour such as felon, abscess, gout or the rheumatoid process. Radiological studies are standard in making the diagnosis, but small lesions may be undetectable on plain radiographs and, therefore, computed tomography (CT) scans or ^{99m}Tc bone scintigraphy may be necessary for the detection of occult lesions [1].

We report the case of a neglected, large metastatic tumour involving the wrist and metacarpus originating from renal adenocarcinoma, which appeared 2 years prior to the diagnosis of the primary neoplasm.

CASE REPORT

A male patient, aged 72 years, was referred to the authors' institution due to large tumour involving his left (non-dominant) wrist and metacarpus. The patient noticed the tumour approximately 3-years before presentation, but did not seek medical advice for a long time, as the tumour grew slowly, caused no pain and did not interfere with hand function. Six months before presentation, the patient underwent left side nephrectomy due to renal clarocellular cancer, followed by chemotherapy. At the time of the oncological operation the tumour in the hand had been large enough to be diagnosed, but was unfortunately missed (overlooked).

At presentation the patient was in good general condition, adequate for his age. Examination of the left hand revealed a huge tumour involving the ulnar side of the wrist and proximal metacarpus (Fig. 1). The tumour was non-moveable, and soft at palpation. Its diameter was 5 cm and transverse (dorso-palmar) length was 7 cm. Finger range of motion and total grip strength were reduced. Radiographic examination showed

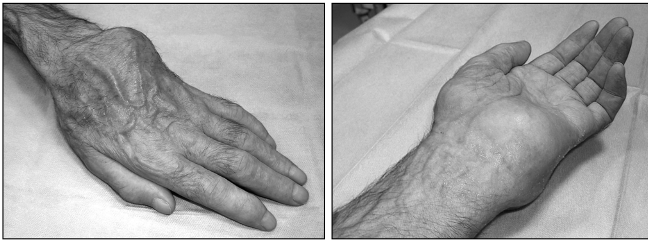


FIGURE 1. Tumour in the hand at presentation

destruction of the distal row of the wrist bones (except the trapezium) and proximal metacarpals II–V.

The patient was operated on in the brachial plexus block and with a tourniquet. Using 2 incisions, palmar and dorsal, the tumour was approached, exposed and resected with about a 1 cm margin of adjacent, macroscopically healthy soft tissues. The resected mass had a fatty structure and included soft tissues and bony remnants of distal carpal row and proximal metacarpals. As we suspected the metastatic character of the tumour, a primary skeletal reconstruction, was not considered. A post-operative course was uneventful and the wounds healed primarily. Histological examination of the specimen showed metastasis of a clear cell renal cell carcinoma, oxyphilic type. IHC: CD10 (++). CK7 (–). Surgical excision was found to be incomplete. After obtaining histological verification, the patient underwent CT and PET scanning to reveal other possible distant metastases, but both imaging tests were negative. Due to incomplete excision of the tumour, the patient had been proposed amputation of the hand, as sophisticated reconstructive surgery was not indicated. He refused amputation and, therefore, was given chemotherapy. At 2 months follow-up the patient had no pain and used his hand in daily life: the total grip strength was 5 kg and the quick DASH score was 34, showing moderate dysfunction (Fig. 2). X-ray showed loss of the distal row of the wrist bones (except the trapezium) and proximal metacarpals II–V (Fig. 3).

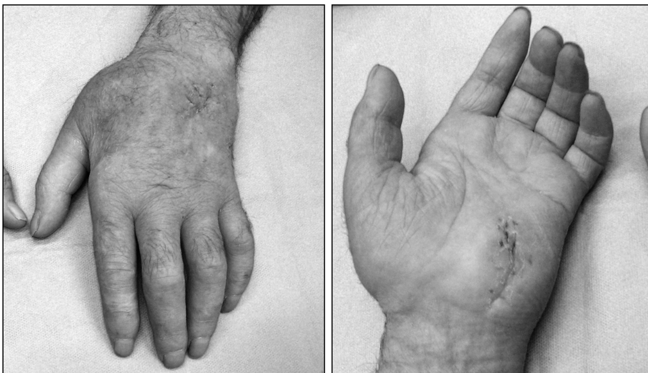


FIGURE 2. Appearance of the hand at 2 months follow-up

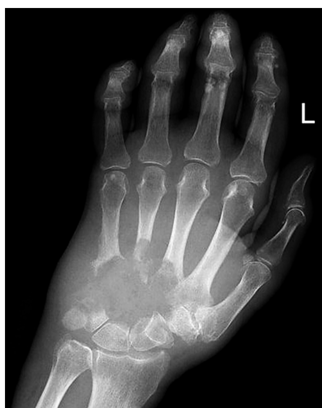


FIGURE 3. X-ray of the patient's left wrist at 2 months follow-up

DISCUSSION

The presented case is interesting for several reasons. Firstly, the metastasis to the hand outstripped (was present earlier) by at least 2 years clinical manifestation of the primary renal adenocarcinoma.

This scenario is rare, but not exceptional [6]. Secondly, the size of the tumour was impressive, which was basically due to the negligence of the patient. One may suspect that his earlier presentation with the hand lesion would have made the diagnosis of the primary tumour in the kidney faster.

The literature shows several reports on metastases of malignant tumours to the hand, mostly to bones, although, compared to metastases to other organs and tissues they are extremely rare. Amadio and Lombardi reported nine cases of hand metastases among 75,773 patients (0.01%) diagnosed with malignant neoplasm of various origin [4]. Other authors showed three cases of metastatic hand tumours in 41,000 (0.007%) neoplasmatic patients [7, 8, 9]. A review of the literature shows the most common location of metastatic tumours in phalanges (approximately 66%), followed by metacarpal and carpal bones (17% either), and more frequent occurrence in men than women [5, 8]. The expected survival for patients with malignant metastases to the hand is poor, usually not longer than 6 months [5, 6]. The diagnostic algorithm includes radiographic, USG and MRI studies. Biopsy is necessary in many cases for the diagnosis, although an excisional biopsy of a tumour in the finger or wrist does not differ from its definitive removal, and is not recommended in small lesions. Treatment includes local excision of the tumour in most cases. As the prognosis is generally poor, any complicated reconstructive surgery is not indicated. If the tumour is sensitive, radiotherapy or chemotherapy may be appropriate.

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