



Bladder Tumor Metastatic to the Bones of the Foot: A Case Report

Mesane Tümörünün Ayak Başparmağına Metastazı: Olgu Sunumu

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SUMMARY

Osseous metastases occur in approximately 20-30 % of malignancies. Of these, 0.007-0.3% has acro metastasis. Metastatic malignancies of the foot are rare. They unusually develop from lung, colon and genitourinary tumors. Metastases to the bones of the foot can pain, rash, swell, soft tissue ulceration and osteolytic destruction. A patient applied to orthopedics clinic due to pain on right big toe with rash and purulent discharge that lasts for two weeks. A 58-year-old male patient underwent an operation due to bladder cancer seven years ago. He had been prediagnosed with osteomyelitis and his right big toe had been amputated. A histopathological diagnosis was consistent with primary tumor. In this report, we present an unusual case of bladder tumor with foot metastasis.

Key Words: Bladder tumor, foot metastasis, bone metastases.

ÖZET

Kemik metastazları tüm kanserli hastaların %20-30'unu, bunun %0.007-0.3'ünü ise ayak kemiklerine metastazlar oluşturur. Ayakta metastatik tümörler çok nadir gözlenir. Bunlar genellikle akciğer, kolon ve genitoüriner sistemden kaynaklanır. Ayak kemiklerine metastazlar ağrı, şişlik, kızarıklık, yumuşak doku ülserleri ve osteolitik destrüksiyonlar oluşturabilir. Ortopedi kliniğine sağ ayak başparmağında iki hafta önce başlayan şişlik, kızarıklık, ağrı nedeni ile başvuran 58 yaşındaki erkek hastanın özgeçmişinde yedi yıl önce mesane tümörü tanısı ile operasyon hikayesi vardı. Medikal tedaviye yanıt alınmaması üzerine osteomyelit ön tanısı ile sağ ayak başparmağına amputasyon yapıldı. Histopatolojik bulgu, primer tümör metastazı ile uyumlu bulundu. Olgu, mesane tümörünün nadir metastatik lokalizasyonu nedeni ile sunuldu.

Anahtar Kelimeler: Mesane tümörü, ayak başparmağı metastazı, kemik metastazı.

INTRODUCTION

Although, the prevalence of bone metastases in patients with cancer ranges from 20 to 30%, the small bone metastases of hands and feet is rarely seen (1-3). Lung, colorectal and genitourinary system malignancies are common tumors that metastasize to feet bones. Bronchus carcinomas are the most common of these tumors. Foot metastases frequently involve the tarsal bones while phalanx is the least common site for metastases (4,5).

CASE REPORT

A 58-year-old male patient underwent an operation due to bladder cancer seven years ago. The patient was placed under surveillance subsequent to the adjuvant therapy. Three years after diagnosis, lung, brain and liver metastases were detected and given six courses of Cisplatin and Gemcitabine following postoperative cranial radiotherapy. The patient showed full-response to chemotherapy and he was placed under three-month outpatient surveillance. But he didn't attend follow-up, regularly.

The patient applied to orthopedics clinic due to pain on right big toe with rash and purulent discharge that lasts for two weeks. An abscess formation was diagnosed and he was given antibiotic after drainage. Despite treatment, abscess and rash got enlarged and he showed fever. Abscess was drained following new antibiotics. He did not respond to treatment and direct graphy performed. On graphy, lytic lesion destructed the bone on the first phalange of right foot and obliterating of surround soft tissues (Figure 1). The patient's history only indicated 30 packages/year of smoking. He

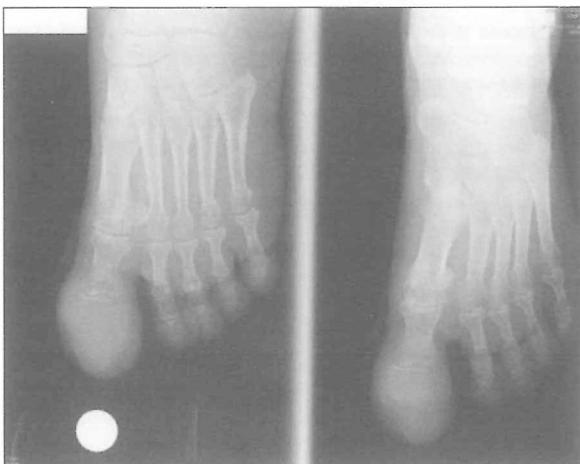


Figure 1. Radiograph of right foot at presentation showing destruction of right first phalange.

had been prediagnosed with osteomyelitis and his right big toe had been amputated. The pathologic diagnosis revealed the presence of malignant cells of urothelial origin, immunochemistry in keeping with transitional cell carcinoma (Figure 2). The patient referred to our clinic for radiotherapy. After imaging studies, metastases of lung, liver, brain and bone were detected. On scintigraphic evaluation, increased activity in left iliac wing, proximal tibia and distal diaphysis were detected and a total of 20 Gy radiotherapy (4 Gy/day fractional) was applied to metastatic sites. Since bladder cancer metastasizes to big toe is extremely rare, we aimed to present this patient as a case report.

DISCUSSION

Bone metastases are common in breast, prostate, thyroid, kidney and lung cancers. The most common sites of metastases occur on vertebra, costa, pelvis, cranium, proximal femur and humerus. However, hand and foot bones metastases are rarely seen related with poor prognosis. These metastases are mainly detected following the diagnosis of the primary tumor (1,2,5). The metastases of foot bones comprise 0.05% of all metastatic tumors and tarsal bones are involved in 50%, metatarsals in 23% of the cases whereas phalanges account for only 17% of the reported cases (6-8).

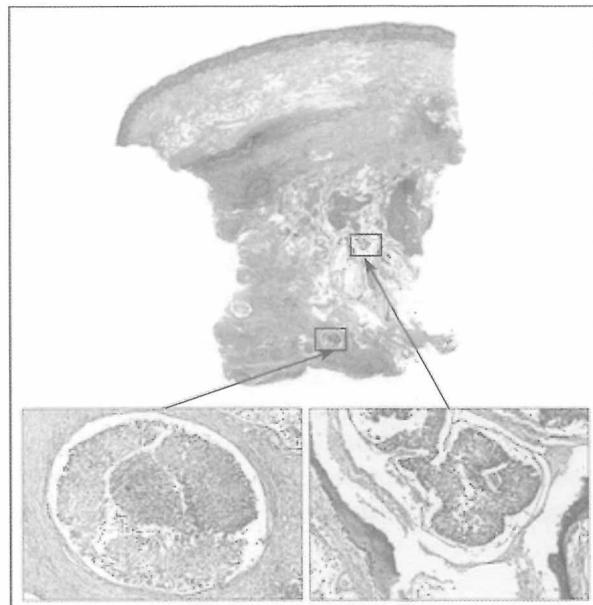


Figure 2. Histological appearance on specimens obtained from toe amputation. Microscopic examination of a biopsy from lesion demonstrates pathologic specimen confirmed the presence of malignant cells of urothelial origin, consistent with transitional cell carcinoma (Hematoxylin and eosin; magnification 100x).

Although the mechanism of extremity metastases is not known clearly, it is suggested to spread via vascular system. Trauma, hormonal factors, accompanying diseases like diabetes and the tissue-response determine the metastases to skeletal system. Metastases are considered to occur due to entering of tumor-originated micro emboli into arterial circulation. It was reported that metastases could get enlarged in sites of high arterial blood flow (7,8). There was no history of diabetes or trauma in the present case.

It is widely accepted that supra-diaphragmatic cancers metastasize more commonly to hand whereas sub-diaphragmatic ones (gastrointestinal, renal, bladder, uterus etc.) metastasize frequently to feet. Common primary sites to foot metastases are originated from the colorectal (17%), genitourinary (17%) and lung (15%) tumors, respectively (4,6). In addition, breast, cervix, ovary and prostate tumors are among other malignancies metastasizing to feet (7). The primary tumor of the present case is transitional cell carcinoma of bladder which is one of genitourinary tumors and the second most common tumor metastasizing to feet. Foot metastases to phalanges account for 17% of the cases. The most common primary tumor metastasizing to phalanges are lung malignancies (4,5). In our case, metastases to distal (terminal) phalanges of big toe were observed.

Peripheral bone metastases are often under diagnosed because of their rarity. The first and primary symptom of phalange metastases is pain. Besides pain, swelling, fever and ulceration of skin may occur. In general, the physical examination findings may be confused with features such as abscess, osteomyelitis, rheumatoid arthritis, septic arthritis, trauma, unidentified object, felon (8). Like the present case, the lesion was initially diagnosed and treated as infection.

Direct X-ray graphy and computed tomography is helpful radiologic tools in establishing the diagnosis. Biopsy may be required in solitary metastases. Trabecular destruction and osteolysis are seen radiologically in metastatic lesions of the bone. Tumor related macrophages and osteoclasts are believed to be responsible

for metastases-induced osteolysis. In 80% of peripheral bone metastases, lytic lesions can be detected radiologically (1,8). In our case, osteolytic-destructive bone lesions were found in distal phalanges and condensed edema and ulcerative lesions were recognized in soft tissues on foot P-A direct X-ray graphy.

The average life expectancy in patients with foot metastases ranges from 5 to 9 months. In a study, Healey et al. reported that average life period was 14.3 months following peripheral metastases was recognized (3); while in an other study, Bunkis et al. reported 9.9 months (2).

The treatment of extremity metastases is palliative and targets pain reduction. Suggested treatments include local radiotherapy, curettage, and amputation (7,8).

In conclusion, metastases should be kept in mind in patients with soft-tissue and bone lesions that do not respond to appropriate treatment who were diagnosed with cancer, previously.

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