

Hip Pain associated with High Risk of Metastasis in Elderly Population

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Abstract; The study aimed to determine the sociodemographic distribution, metastatic foci, and localizations of metastatic cases evaluated at a regional bone and soft tissue tumor center and emphasize the importance of the hip region in the aspect of metastatic bone disease. A total of 356 cases of the metastatic bone disease were detected in the local database which contains 2586 patients who applied to the center due to bone and soft tissue tumor at Ondokuz Mayıs University Faculty of Medicine between 2004-2018 (13.76% of all bone and soft tissue tumors cases). These patients were included in the study by determining the age, gender, localization, and primer foci. While the youngest age was seen at 6 years of age, the oldest age of metastatic bone disease was 89 (mean 59.36). There were 205 male patients and 151 female patients. 67 of the 356 metastatic cases were present with pathologic fracture (18.82%). Metastases were observed in the range of 60-69 years (26.68%), followed by 50-59 and 70-79 age ranges respectively (25.84% and 19.54%). The most common site of metastasis was the hip (149 cases, 41.85%). There were localizations following thigh (44 cases) and shoulder (29 cases) (12.35% and 8.14% respectively). The mean age of patients with the metastatic disease around hip was 63.3 and the most common primary foci were lung, followed by breast and kidney. Primary foci were not detected in 60 patients. When metastatic patients evaluated at our center were examined, the metastatic bone disease was more frequently observed in male patients aged 60-69 years who presented with pain in the hip region. Metastatic bone disease is a condition that should be considered in this patient group.

INTRODUCTION

Hip pain is one of the most common symptoms in orthopedics and traumatology outpatient clinics. The etiology of hip pain varies by age. While diseases affecting epiphysis, trauma, and infectious conditions should be considered primarily in the early years of life, trauma and metastatic bone disease should be kept in mind, especially at the age of 65 and over. In the elderly patient group, hip pain due to metastatic bone disease can sometimes mimic the findings of osteoarthritis, so the treatment of metastatic bone disease may delay. It should be kept in mind that a common pathology such as trochanteric bursitis can confuse with metastatic bone disease. A clue about the metastatic bone disease can be obtained when a brief systematic examination is performed in elderly patients with hip pain.

In this study, we examined the distribution of patients with metastatic bone disease who applied to the Bone and Soft Tissue Tumor Council (BSTTC) operating under the Department of Orthopedics and Traumatology, Ondokuz Mayıs University. It was our secondary goal to point out that

metastatic bone disease, especially in the hip region, may be overlooked for another reason in orthopedics and traumatology outpatient clinic.

MATERIAL and METHODS

Ethical approval

This study was found ethically appropriate by the Ondokuz Mayıs University Clinical Research Ethics Committee on 20.07.2017 with the decision number OMUKAEK 2017/259. No budget was used for the study.

Study design

The data of BSTTC, operating under the Department of Orthopedics and Traumatology, Ondokuz Mayıs University Faculty of Medicine, between years 2004-2017, were analyzed retrospectively. Working parameters based on tumor council form; The name of the patient includes the surname, protocol number, age, gender, briefly complaint, pre-diagnosis, final diagnosis, and council decision.

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Statistical analyses

The research data was uploaded and evaluated on the computer via Microsoft Excel program via “SPSS for Windows 21.0 (SPSS Inc, Chicago, IL)”. Descriptive statistics were presented as mean (\pm) standard deviation, median (minimum-maximum), frequency distribution, and percentage.

RESULTS

The metastatic bone disease was detected in a total of 356 cases in 1230 patients who were examined with a pre-diagnosis of metastatic bone disease in BSTTC (28.94%). The youngest age was 6 years, while the oldest was 89 (Average 59.36). In contrast to 205 male patients, 151 female patients were available in the study. 37 of 356 cases of metastatic bone disease presented with pathological fractures (10.39%).

Metastasis cases were observed mostly in the 60-69 age range (26.68%), followed by the 50-59 and 70-79 age range (25.84% and 19.54% respectively). The area with the most common metastasis was the hip (149 cases, 41.85%). There were localizations following thigh (44 cases) and shoulders (29 cases) and hips (12.35% and 8.14%, respectively).

Distribution of metastasis cases according to age, gender, localization, and primary foci are given in figures 1, 2, 3, and 4, respectively.

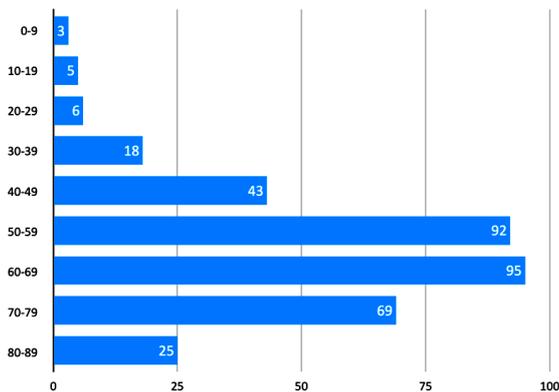


Figure 1. Distribution of 356 metastatic bone cases with age characteristics

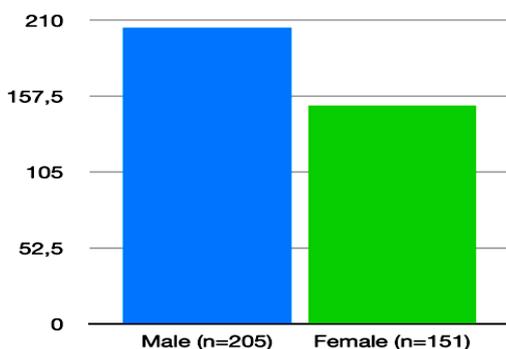


Figure 2. Gender distribution

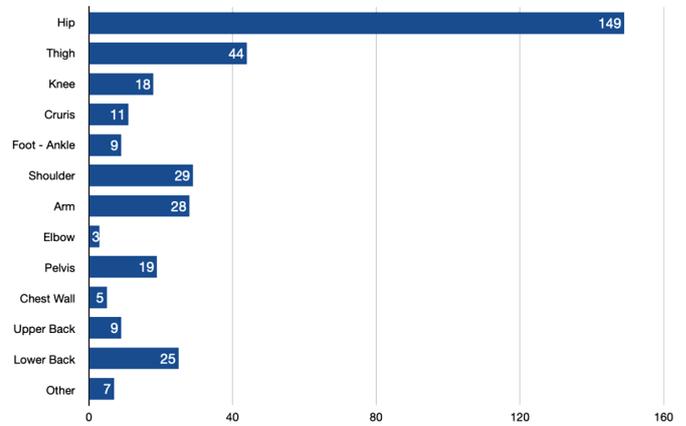


Figure 3. Localization distribution of 356 metastatic bone cases

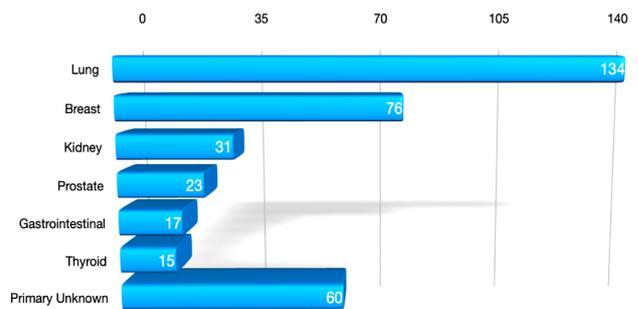


Figure 4. Distribution of metastatic bone patients by foci

DISCUSSION

Metastatic bone disease has now become a common discomfort. Especially given the prolonged life expectancy and increasing life expectancy, proper diagnosis of the disease and its treatment are important. Also, new classes of drugs and new interventions give these patients a better quality of life and increase life expectancy.

Bone metastases are characterized by severe pain, movement disorder, pathological fractures, spinal cord syndrome, bone marrow aplasia, and hypercalcemia, and cause important morbidity¹. Bone tissue is a common site of metastatic disease. Once bone metastasis develops, the prognosis in cancer patients starts to worsen. Most skeletal metastases are due to breast and prostate cancer. Bone metastasis is much more common than primary bone cancers, especially in adults². Even the advanced modalities are widely used in hospitals, the diagnosis is based on signs, symptoms, and imaging. Although the metastatic bone disease is sometimes apparently presented, it can sometimes hide behind other symptoms and be easily overlooked.

Patients often use the media to research the symptoms

and diseases. Pazarıcı et al.³ studied to evaluate the representation of orthopaedic oncology in the media. Early diagnosis and correct information is very important for orthopaedic oncology patients. According to their study, a very small number of news items about bone cancer symptoms and bone metastasis were seen in the media³. It would be better to improve media visibility for orthopaedic oncology, so patients can access correct information. And so they may get early diagnosis.

In our clinic, patients who applied to BSTTC and had a pre-diagnosed metastatic bone disease constituted 35% of all bone tumors. While the incidence rate was 57.6% in men, this rate was 43% in women. The vast majority of cases were observed between the ages of 50-70 (52.5%). When we compare our data with the literature, it is seen that metastatic bone tumors are generally observed in the 5th and 6th decades^{4,5,6}.

When the foci of metastasis cases were examined, the lung was the most common site (37.64%), followed by breast cancer (21.34%). In an autopsy study, at least 70% of autopsy patients, breast and prostate ranked first with a rate of 84%⁷. Although metastases occur at later stages of life, it should be kept in mind that breast and thyroid cancers can occur with metastasis in the 4th and even 3rd decade. In a study in which 9505 metastatic bone disease was examined, the most common primary site was detected as breast (n = 1798), and the second most common primary site was prostate (n = 1862)⁴. Although the primary sites vary, lung, breast, kidney, prostate, and thyroid tissue are the primary foci that should be considered primarily in the presence of metastatic bone disease⁸. However, it should be kept in mind that there are cancer types that can cause metastatic bone disease outside these sites.

The number of metastases in the Rizzoli archive, which is one of the largest series in the literature was 4431. The most common age range was 60-69 years old, and the most common localization was vertebra. The localization following the vertebra was the proximal femur and iliac wing, respectively. The most common localization in our study was the proximal femur and hip region. The low rate of vertebral metastasis in our series can be explained by the fact that vertebral metastases are examined by spinal surgeons in our hospital and therefore these data are not reflected in our statistics.

In a study in which 28 metastatic bone tumors were

evaluated, the female-male ratio was 1.5, the average age was 59.2, and the most common localization was proximal femur, and the most common foci of metastasis was lung. A primary tumor could not be detected in 25% of these cases⁹. In our series, the number of metastasis cases with no primary focus is 60 and proportionally corresponds to 16.85% of all metastasis cases. Primary site detection is often not possible in the presence of multiple metastases. In 490 metastasis cases detected in the series of Yüçetürk et al., the lung was most frequently detected as a focus (27%)¹⁰. Our data on the primary foci of metastatic bone disease is compatible with the literature.

Hip pain is a common and disabling condition that affects patients of all ages. The differential diagnosis of hip pain is broad, presenting a diagnostic challenge¹¹. There may be many causes of hip pain. Especially in advanced ages, osteoarthritis of the hip joint, and changes in the surrounding soft tissues are the main causes of hip pain. Therefore, diagnosis of metastatic bone disease can easily be referred to as other problems in patients presenting with hip pain. If a careful physical examination and systematic evaluation are not performed, tumors located in the hip area may be overlooked. Especially in the presence of nocturnal pain, activity-independent pain and swelling, the presence of a tumor around the hip should be suspected. White et al.¹² presented a case of a 55-year-old woman with a six-month history of pain over the lateral aspect of her left hip in the trochanteric region. She had a history of hip pain for six months. On examination, she had a marked antalgic gait. A radiograph of the pelvis revealed the lytic area over the greater trochanter, and the primary foci were scanned and she has been diagnosed with metastatic breast cancer¹².

Up to the study of Ashford et al.¹³, even in an adult young patient with progressive pain or night pain should be referred for urgent radiographic assessment to rule out a primary malignant bone tumor. Early diagnosis is essential in these patients as the disease can be rapidly progressive¹³.

In our study, the diagnosis time of metastatic bone disease around the hip after their first referral to the orthopedic clinic is unknown. We noticed that there are patients who have metastatic bone disease in their hip area during their treatment for another reason concerning the hip. However, we could not detect this statistically. This was one of the limitations of our study.

A 69-year-old male patient applied to the orthopedic outpatient clinic. He had pain in his right hip for the last 3-4 months. A lytic area was observed in the right femoral subtrochanteric area on direct radiography. In the MRI sections, it was observed that the medullae were infiltrated. The patient was then reconstructed with modular tumor prosthesis following proximal femur resection (Figure 5).



Figure 5. Preoperative and postoperative images of a 69-year-old male patient with right hip pain

CONCLUSION

In conclusion, the most common localization of bone and soft tissue tumors was determined as hip. Musculoskeletal tumors and metastatic bone disease should be considered in the differential diagnosis especially in patients over 60 years old who present with hip pain.

Conflict of interest

The author declares that there is no conflict of interest.

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