

Bone Metastasis as the First Sign of Gastric Cancer

Arzu Akan *, Yavuz Eryavuz *, Refik Bademci *

SUMMARY

Most skeletal malignancies are found to be metastatic rather than primary tumors. The skeleton is a common metastatic site for visceral carcinomas and the lungs, prostate and the breast are the most frequent primary sources. Solitary bone metastasis as the first sign of gastric carcinoma is a very infrequent finding. We report a rare case of a 61-year-old patient having a gastric carcinoma with a solitary bone metastasis as the first evidence of the malignancy.

Key words: Metastases, gastric, cancer, bone

ÖZET

Gastrik Kanserin İlk Belirtisi Olarak Kemik Metastazı

Çoğu iskelet sistemi malignensileri primer tümörlerden çok metastatik karakterdedir. İskelet sistemi visceral karsinomlar için ortak bir metastatik bölgedir ve akciğerler, prostat ve meme karsinomları en sık görülen kanserlerdir. Gastrik karsinomun ilk belirtisi olarak soliter kemik metastazı görülmesi çok enderdir. Bu çalışmamızda gastrik karsinomun ilk belirtisi olarak soliter kemik metastazı görülen 61 yaşında bir olgu anlatılmıştır.

Anahtar kelimeler: Metastaz, gastrik, kanser, kemik

INTRODUCTION

Most skeletal malignancies are found to be metastatic in nature rather than primary tumors. Frequently they are the first evidence of a tumor in 10-15 % of all lesions which were previously undetected ⁽¹⁾.

The skeleton is a common metastatic site for visceral carcinomas, lungs, prostate and breasts are the most frequent primary foci.. Identification of the primary tumor and the treatment may be challenging. The rate of successful identification of the primary tumor in the literature ranges between 9 to 48 % ⁽²⁾.

There are few studies in the literature for the tumors with a metastatic bone lesion as the first sign. Solitary bone metastasis as the first sign of gastric carcinoma is very infrequent ⁽³⁾.

We report an infrequent case of a 61-year-old patient diagnosed having a gastric carcinoma with a solitary bone metastasis as the first evidence.

CASE

A 61-year-old man suffering from a painful mass in the middle third of the left anterior thigh region was admitted to the department of surgery in January 2007. His medical history revealed epigastric pain of a 6 month- duration, nausea and weight loss as the additional complaints and chronic obstructive pulmonary disease controlled with medical therapy.

The physical examination was completely normal except a painful 7 cm mass in the middle third of the left thigh region. Routine laboratory test results related to complete blood count, erythrocyte sedimentation rate, liver enzymes and alkaline phosphatase levels were in normal limits with only a small drop in hemoglobin level (13.5 g/dL; normal range 14-18 g/dL).

Radiologic assessment of the lesion, performed with direct X-ray films, bone scintigraphy and magnetic resonance imaging, was suggestive for an osteosarcoma (Fig. 1). The patient was consulted with orthopedic surgeons and underwent a Tru-cut biopsy. The biopsy specimen was reported as a metastatic

* General Surgery Department, Ministry of Health Okmeydanı Education and Research Hospital

lesion from an adenocarcinomatic source.

Abdominal computed tomography showed a suspect metastatic liver lesions and thickening of the gastric wall with a maximum depth of 3 cm at the gastric angularis, and thorax CT was within normal limits. An endoscopic examination of the upper gastrointestinal system revealed a tumoral lesion in the esophago-cardial region starting from 40 cm away from the incisors and spreading all the way through the lesser and greater curvatures of the stomach. Multiple biopsies of the lesion were taken. After the pathological confirmation of the gastric lesion as adenocarcinoma, the patient was considered as an incurable case, and an endoscopic esophagogastric stenting procedure was performed for the narrowing of the distal esophageal-cardial region.

The painful lesion in the middle third of the left anterior thigh region was removed by the orthopedic surgery department for the palliation of the pain and also to prevent a possible impending pathological fracture.

DISCUSSION

A solitary skeletal metastasis may easily be mistaken for a primary bone tumor. It is suggested that a bone tumor should be approached as a metastatic lesion after the age of 40 until proven otherwise ⁽⁴⁾. A comprehensive medical history should be obtained and a complete physical examination with special attention to the lungs, prostate, breasts and thyroid gland should be performed. Routine laboratory tests and the tumor markers may be suggestive but are not always diagnostic of a metastasis. Radiologic studies including direct X-ray, computed tomography and magnetic resonance imaging and the bone scintigraphy may not differentiate between a metastatic or a primary bone lesion.

The patient presented in this report was above 40 years of age with additional epigastric complaints and weight loss which alerted us for a metastatic tumor. Unfortunately, laboratory tests were inconclusive and the radiological studies were only suggestive but not diagnostic. So, the patient underwent biopsy which was the best diagnostic option left.

With a histopathologically proven metastatic bone lesion, the patient should be thoroughly examined for the primary source. A computed chest tomography, in addition to a routine chest X-ray film, is advisable in a patient with smoking history. An abdominal tomography is acceptable and suggested since it is noninvasive. The possible findings from the radiological examinations might lead to the establishment of diagnosis, as it had happened in the reported case. The patient had wall thickening in the stomach on abdominal CT and underwent gastroscopy which revealed a gastric carcinoma. Unfortunately the patient was beyond the curable limits with a distant metastatic bone lesion and suspect metastatic liver lesions.

Even though it is rare, we want to emphasize with this study that stomach cancer may metastasize to bones. In bone metastasis with an unknown source, detailed anamnesis and physical examination, hematologic and radiologic tests together with histopathologic investigation may be helpful for diagnosis.

REFERENCES

1. Baron MG, Gandara I, Espinosa E, et al. Bone metastases as the first manifestation of a tumour. *Int Orthop* 1991; 15:373-376.
2. Rougraff BT, Kneisl JS, Simon MA. *J Bone Joint Surg Am* 1993; 75A:1276-1281.
3. Nottebaert M, Exner GU, Hochstetter AR, et al. Metastatic bone disease from occult carcinoma: A profile. *Int Orthop* 1989; 13:119-123.
4. Birla RK, Bowden L. Solitary Bony metastasis as the first sign of malignant gastric tumor or of its recurrence. *Ann Surg* 1975; 182:45-49.