

Case report

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## Bilateral metastasis to the femoral head as the only manifestation of recurrence of gastric adenocarcinoma: a case report

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### Abstract

**Background:** Metastases to the bone as the sole manifestation of recurrence of a gastric carcinoma are extremely rare.

**Case report:** We herein report the case of a 63-year-old man operated a year and a half before for a poorly differentiated gastric carcinoma affecting the fundus, who developed bilateral metastasis to the femoral head as the sole manifestation of recurrence. He was treated with radiotherapy to control pain with a poor response and both femoral heads had to be eventually resected.

**Conclusions:** We review the literature on the rare occurrence of osseous metastasis from gastric carcinoma and comment briefly on the therapeutic options for these cases.

### Introduction

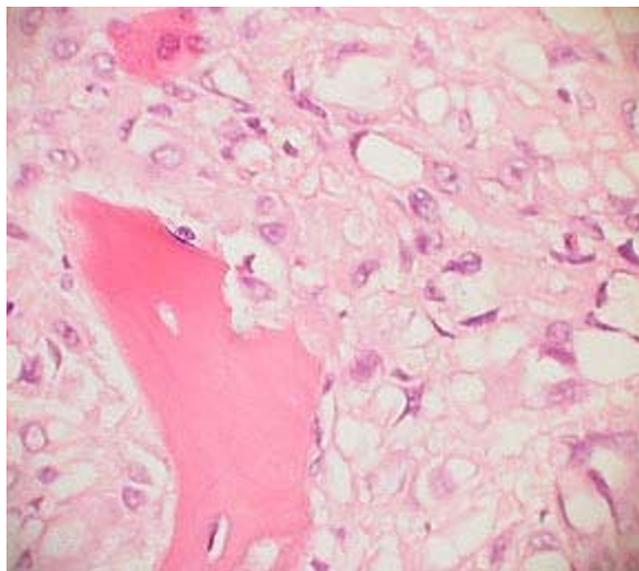
Gastric carcinoma is a frequent tumor, specially in some parts of the world, like Japan [1]. Metastasis to the bone from gastric tumors seem to be rare and have been estimated to appear in 13.4% of the autopsy cases of gastric carcinoma in a Japanese study [2]. It mainly affects patients with poorly differentiated tumors and widespread disease along with metastasis to other sites [2]. Another study on resected tumors rendered a 1.2% incidence of osseous metastasis [3]. Metastases to the bone can occasionally be the first manifestation of the gastric tumor [4-6], but have only rarely been described as the sole manifestation of tumor recurrence [7,8]. We herein report a rather unusual case of synchronous bilateral femoral head metastases from gastric carcinoma 1 1/2 years after successful resection of the tumor without evidence of recurrence elsewhere.

### Case report

A 61-year-old man consulted on weight loss and dysphagia. He referred no medical antecedents of interest, other than hypertension under medical and dietetical control and renal stones. He was a moderate smoker (< 10 cigarettes/day) and a social drinker. The barium swallow revealed a sliding hiatal hernia with a repletion defect inside. Endoscopy confirmed the presence of a huge mass in the herniated gastric fundus, and biopsy revealed adenocarcinoma. As the extension study (including CT scan) showed no metastasis, gastrectomy with distal esophagectomy was undertaken. Histological analysis of the resected specimen confirmed the diagnosis of poorly differentiated gastric adenocarcinoma with signet ring cells TNM stage IIIA (T3N1M0). The patient had a good postoperative course and was discharged. Two months after surgery he



**Figure 1**  
Gross photograph of the right femoral head showing a lytic lesion.



**Figure 3**  
Low-power photomicrograph of the femoral head showing bone destruction and infiltration by a diffuse epithelial tumor (note the presence of remaining bone trabeculae) (hematoxylin-eosin,  $\times 100$ )



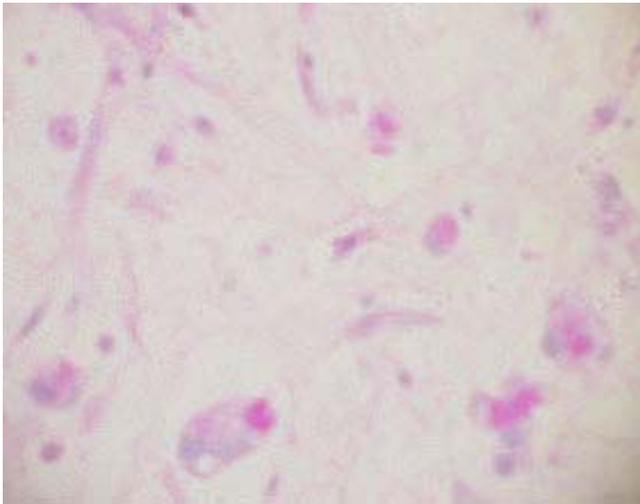
**Figure 2**  
Gross photograph of the left femoral head with a similar lytic lesion.

The patient remained asymptomatic for 8 months, during which time endoscopic biopsies were obtained and did not demonstrate evidence of local recurrence. He consulted on the sudden appearance of pain and functional impotence on his right leg. Bone radioisotope scanning revealed non-specific changes attributed to degenerative pathology, but the CT scan showed a lytic mass in the right femoral head suggestive of metastasis. The patient was started on irradiation therapy but pain persisted and he was admitted for femoral head resection (Figure 1). During the postoperative period he developed pain in his left leg and CT scan showed another lytic lesion in the left femoral head, which was not present in the previous study. The left femoral head was resected (Figure 2) and no prosthesis could be implanted. The histological analysis of both femoral heads confirmed the presence in the lytic areas of a diffuse proliferation of epithelial cells (figure 3), some of which corresponded to signet ring cells (Figure 4). Extension studies, including imaging techniques, whole body CT scan and laboratory studies, revealed no other metastasis. His postoperative course was uneventful and he was discharged for palliative care at home.

### Discussion

Metastasis to the bone from gastric carcinoma seem to be rather rare, with an incidence under 14% in autopsy series

received 6 cycles of chemotherapy (5-fluorouracil, cisplatin and etoposide) with a good tolerance.



**Figure 4**  
High-power photomicrograph of the tumor cells, showing signet ring features (PAS stain, × 400)

[2]. Osseous metastases are more frequent in poorly-differentiated tumors and usually develop within two years of initial diagnosis [3]. However, there have also been reports of bone metastasis from early gastric cancer [9]. The thoracic and lumbar vertebrae seem to be the most frequent site [3], although there have been occasional reports of metastasis to the calcaneal bone [4], the pelvis [6] and even the skull base [10]. Prognosis of patients with osseous metastasis from gastric carcinoma seems to be dismal (median survival time 5 months) and 3 years and a half has been the longest survival period reported in the literature [9]. Radiotherapy has been advocated as the best therapeutic alternative for pain control with a response rate of 75% [11]. However, recent reports [12] have employed chemotherapy with 5-fluorouracil with no adverse severe side effects. Nevertheless, prognosis remains poor and therapy is mainly aimed at relieving pain and discomfort. We have found no references in the literature to surgical resection of osseous metastasis from gastric carcinomas, but this was the only alternative in our patient, for he seemed to be unresponsive to radiotherapy.

### Conclusions

We herein report a new and rather unusual case of bilateral femoral metastasis from a gastric carcinoma resected one year and a half before. Reported cases are very few and no therapeutic recommendations are universally accepted, although both radiotherapy and chemotherapy have been employed. Nevertheless, prognosis of patients with bone metastasis from gastric tumors seems to be dis-

mal and treatment is only aimed at ameliorating pain and possible complications from metastasis.

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