Bone metastases as the initial presentation of carcinoma of gall bladder: a rarity

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Abstract Distant metastases are rare form of presentation of carcinoma gall bladder. Bony pain as initial presentation is quite unusual. A 50-year-old woman presented with the pain in right shoulder. Investigation showed metastatic adenocarcinoma in the head of humerus and the primary was found in the gall bladder. She received local radiotherapy for bone metastases and undergoing systemic chemotherapy. Carcinoma gall bladder is a common abdominal malignancy, mostly presenting in advanced stage with abdominal symptoms and obstructive jaundice. In presence of metastasis, the management is palliative and role of chemotherapy is limited for palliation symptoms.

Keywords Bone metastases · Carcinoma gall bladder · Chemotherapy

Introduction

Carcinoma gall bladder is one of the commonest malignancies in females in northern and central India [1]. The common mode of presentation are abdominal pain, obstructive jaundice and symptoms of advanced disease [1, 2]. Metastases from gall bladder carcinoma commonly affect the local areas such as liver, duodenum and the para-aortic lymph nodes [3]. Although the atypical presentations and unusual associations of carcinoma gall bladder are known [4], but initial clinical presentation with distant metastasis is rare [1, 5].

Case report

A 50-years-old woman presented with right shoulder pain and restriction of shoulder movements since 8 months to an orthopaedician. There was no history of injury, fever or any other joint pain. The X-ray of shoulder joint showed an osteolytic lesion in the head of humerus (Fig. 1) and the CT scan of shoulder joint showed de-mineralization and erosion of humeral head with the possibility of either inflammatory or malignant pathology. To confirm the diagnosis, an incision biopsy was performed, which was suggestive of metastatic adenocarcinoma. With this diagnosis, patient was referred to our center for the further management.

At the time of presentation to our department, patient had persisting pain and restrictions of shoulder movements. She had no other symptoms. Patient was a known case of asymptomatic multiple gall stones for last 3 years. Rest of the clinical history was not significant.

The patient was in good general condition and her general physical examination was within normal limits. On local examination, there was mild tenderness over the upper end of humerus and flexion and abduction of shoulder were restricted. Clinical examination of breast, thyroid and chest was normal. Per abdominal examination did not show any

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lump or organomegaly. Digital per rectal and per vaginal examinations were also normal.

The patient was investigated further to detect the primary site of malignancy. Her routine blood investigations, liver function tests, renal function tests and serum calcium were within the normal limits. Her X-ray chest, bilateral mammogram, ultrasonography (USG) of neck and computer tomography (CT) of chest was also normal. The USG abdomen showed multiple gall stones and a mass lesion

Fig. 1 X-ray of shoulder joint showing an osteolytic lesion in the head of humerus

Fig. 2 CT scan of abdomen

in the gall bladder bed. The contrast enhanced CT scan of abdomen was performed which showed an ill-defined approximately $7.4 \times 5.5 \times 5.5$ cm hypodense lesion with mild heterogeneous enhancement, arising from gall bladder and infiltrating into segment IV and V of liver – suggestive of carcinoma gall bladder (Fig. 2). The USG guided fine needle aspiration cytology from the mass was suggestive of adenocarcinoma. The bone scan was also performed to detect any other bone metastases and that revealed one more lesion in the skull. The final diagnosis of carcinoma gall bladder with bone metastasis was made.

The patient was planned for local radiotherapy to humerus head and palliative chemotherapy in view of her good general condition and metastatic disease. She has received 20 Gy radiotherapy in 5 fractions to humeral head. The shoulder pain is relieved and she has completed 2 cycles of chemotherapy to date.

The carcinoma gall bladder is a common malignancy with dismal prognosis due to late presentation of disease [1]. One third to one half of patients has metastases to liver and regional lymph nodes by the time the diagnosis is confirmed [3]. Metastases occur most frequently to the liver (76–86%) and regional lymph nodes (60%) [6]. Metastases may occur to practically every organ including liver, lymph nodes, adrenal, kidney, brain, skin, breast, thyroid, heart, orbit [6–10]. However, metastases to the skeletal system are least frequent [10–13]. Metastasis to these areas is a late feature and mostly associated with locally advanced disease. There are very few patients who present with the features of metastases without any clinical evidence of local disease in carcinoma gall bladder [13,14]. The bone metastasis is a common phenomenon in breast, thyroid, lung and prostatic malignancies [15]. Spread of carcinoma gall bladder to bones is rare and most of them are associated with advanced local disease [10–12]. Only one similar case has been described in which frozen shoulder was the initial presentation of carcinoma gall bladder [14].

The controversial issue in these rare patients is the management of local disease. The role of chemotherapy in advanced disease is palliative without any significant survival benefit [16, 17]. The primary aim of treatment in patients with metastatic disease is palliation of symptoms. In the present case, it was achieved by local radiotherapy. However, the key question in these patients is whether to treat the primary disease at the time of initial presentation or treatment should be withheld till the appearance of local symptoms. The role of chemotherapy in these patients is not clear. Whether chemotherapy will improve the survival and benefit the patient or deteriorate the patient condition due to its toxicity. In present case, the chemotherapy was offered in view of her good general condition and patient willingness to take chemotherapy. The prognosis in these cases is unpredictable as very few cases have been reported. It will be interesting to see how this patient behaves in due course of time.

Conflict of interest The authors do not have any disclosable interest

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