



Skeletal Metastasis in Carcinoma Gallbladder

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Abstract

Gallbladder carcinoma is the 5th most common gastrointestinal tract cancers and is an aggressive malignancy with varied presentation. The predominant sites of metastasis being liver and regional lymph nodes. Skeletal metastasis in gallbladder carcinoma is very rare and only 15 cases have been reported in English literature so far. In this manuscript, we describe our experience of two cases of skeletal metastasis in carcinoma gallbladder.

Keywords: Gallbladder Cancer, Skeletal Metastasis in Gallbladder Cancer, Bony Metastasis.

Introduction

Gallbladder cancer is the most common of all the biliary tract cancers and is fifth most common of the gastrointestinal tract. Gallbladder cancer preferentially metastasizes to regional lymph nodes and liver parenchyma. Bone metastasis from gallbladder carcinoma are rare presentation. In a study by Sameer G et al.^[1] 2.5% patients have cytologically proven skeletal metastasis. However, one autopsy series has reported about 10% incidence, which may indicate that the carcinoma gall bladder does metastasize to bone, perhaps in advanced stages^[2]. To date there have only been a few case reports of bone metastasis in carcinoma gall bladder at the time of presentation. We report here two cases of gallbladder carcinoma with bony metastases.

Case Report – 1

A normotensive and nondiabetic male patient of age 30 year from Patna (India) presented to Mahavir Cancer Sansthan on 8th January 2018 with complain of right hypochondrial pain and severe back pain for last 3 months. There is past history of lap cholecystectomy and appendectomy on 26th September 2017 outside for cholecystitis and appendicitis. Histopathology report was adenocarcinoma Grade II, scirrhous type with invasion into the serosa. He received one cycle of Gem + Cis based chemotherapy regimen outside (Last Date C1D8 – 25 – 12-2017).

PET CT (Fig: - 1) was done on 16 – 01- 2018 at our centre showing FDG avid (SUV max 9.71) enhancing soft tissue lesion in the operated bed

abutting the adjacent liver parenchyma suggestive of local recurrence. Multiple FDG avid (SUV max 9.32) enhancing abdomino-pelvic soft tissue deposit – metastatic. FDG avid mediastinal & abdominal nodes -? metastatic. FDG avid (SUV max 6.57) multiple mixed lytic-sclerotic skeletal lesions are seen in left femoral head, medial ends of left clavicle, C5, D8, D12, L1 & L5 vertebrae, multiple sites in bilateral pelvic bones & proximal end of right femur.

Palliative radiotherapy to D8-D12-L1 region was given in view of severe pain in back to a dose of 30 Gy / 10#. Due to poor general condition single agent gemcitabine with zoledronic acid planned. He received cycle 1 chemotherapy on 10th March 2018 thereafter he lost to follow up.

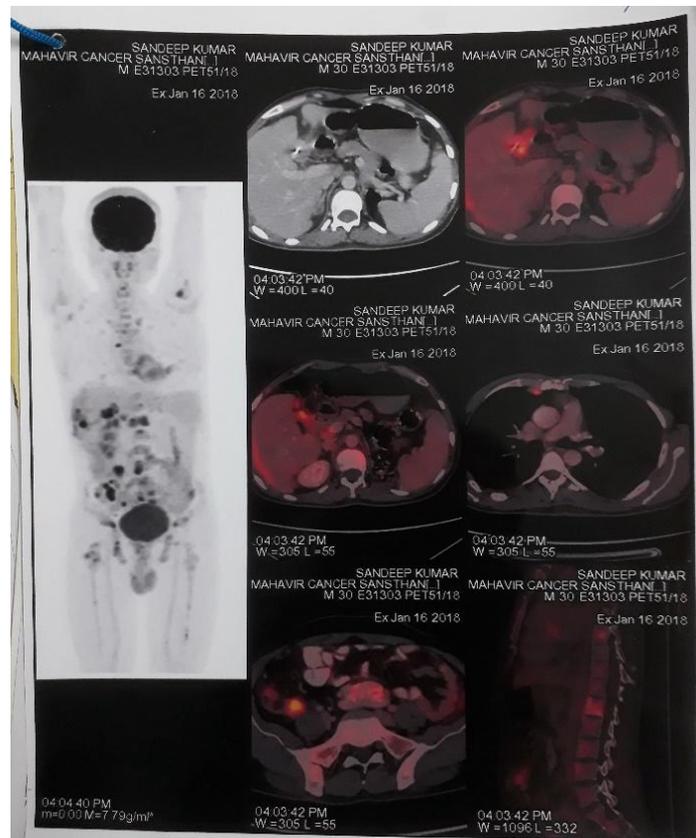


Fig: - 1 PET CT Scan showing local recurrence, abdomino-pelvic soft tissue deposit, mediastinal, abdominal nodes and multiple bony metastasis.

Case Report – 2

A 50-year-old female from Bhagalpur district (Bihar, India) presented to Mahavir Cancer Sansthan on 27th March 2018 with complain of non-healing fracture of lower 3rd of right humerus

(Fig - 2) after trivial trauma. Past history of nailing (Fig - 3) and POP cast outside on 24th January 2018. F18-NaF positron Emission Tomography & attenuation corrected CT scan (3rd April 2018) report showed lytic destructive lesion in distal 3rd of right humerus with prominent soft tissue component and metallic implant in situ. Attenuation correction images also show cortical erosion in middle 3rd of left femoral shaft with increased tracer uptake and a gallbladder lesion. Ultrasound whole abdomen (29th March 2018) showed 27.9 x 26.5 mm size heterogeneous lesion in gallbladder fundal region with ill-defined gallbladder wall. Few periampullary nodal masses and mild ascites was also present. Ultrasound guided FNA from GB mass confirmed adenocarcinoma. Palliative radiotherapy (Fig - 4) to right shoulder and right elbow by Co-60 to a dose of 30 Gy/10# given uneventfully. She was started on Gem + Cis + Zoledronic Acid based chemotherapy regimen, but after C3D1 chemotherapy on 10th July 2018 she lost to follow up.



Fig 2: Plane x-ray showing fracture of right lower 3rd of humerus



Fig 3: X-ray showing nailing of right humerus



Fig 4: Radiotherapy planning x-ray

Discussion

In 1771, Maximillian de Stoll described the first case of a primary carcinoma of the gallbladder^[3]. This cancer is characterised by local and vascular invasion, extensive regional lymph node

metastasis and distant metastasis. Metastases occur most frequently to the liver (76-86%), while regional lymph nodes are involved in about 60% of the cases. Metastases from gallbladder cancer occur to practically every organ including liver, lymph nodes, adrenal, kidney, spleen, brain, breast, thyroid, heart and uterus, those to the skeletal system are least frequent^[4]. The incidence of bony metastasis is very rare and occurs only in the late stages of the disease, hence screening for bone metastasis is not routinely included in the workup of patients with carcinoma gallbladder. To our knowledge there are only 15 case reports of gallbladder carcinoma with skeletal metastasis in the English literature [Table – 1].

Table 1: Showing various case reports of carcinoma gallbladder with bony mets in English literature.

	Author	Year	No. of cases	Site of bony metastasis	Presentation
1	Kohli et al. 5	1994	1	Femur	Pathological fracture
2	Mishra et al. 6	1997	2	Femur, 4 th lumbar vertebra	Pathological #, Pain in back, inability to walk
3	Pandey et al. 7	1998	1	Scalp	Scalp tumor
4	A Kumar et al. 4	2003	1	Disseminated bony metastasis	Generalized bony pain
5	F. Youssef et al. 8	2003	1	Disseminated bony metastasis	Bone pain
6	Singh S et al. 2	2007	1	Scalp	Scalp swelling
7	Jain et al. 9	2009	1	Humerus	Pain & restriction of shoulder movement
8	Kulkarni M et al. 10	2009	1	Left scapula	Dull aching pain in the back
9	Prakash M et al. 11	2010	2	Sacrum / L1 vertebra	-
10	Win AZ et al. 12	2013	1	Disseminated bony metastasis	Back pain
11	Joshi MK et al 13	2013	1	C3/4 Vertebra	Pain in neck, tenderness over C4-C5, Sensory & motor deficit in right upper limb (Power 3/5)
12	Choudhary S et al. 14	2014	1	Left greater trochanter	Pain in left hip joint
13	A Joel et al. 15	2015	1	Thoracic / lumbar Vertebra	Generalized bony pain
14	Yashwant A et al. 16	2016	2	T11/Sacrum	Back pain, Low back pain
15	Varshney VK et al. 17	2018	1	Ribs/Sternum/Vertebral body	-
16	<i>Present case</i>	<i>2018</i>	<i>2</i>	<i>Disseminated bony mets/ right humerus fracture</i>	<i>Back pain/ non-healing fracture in right humerus</i>

According to yochum and rowe^[18] among cases of skeletal metastases from the carcinoma of the gall bladder, 90% are purely osteolytic and 10% are

mixed lytic and blastic type with purely osteoblastic lesions being unknown. In our first patient, there were multiple mixed lytic-sclerotic

skeletal lesions but in second case, lytic destructive lesion in distal 3rd of right humerus was present.

The management of patient with multifocal metastases is challenging. The role of chemotherapy in advanced disease is palliative without any significant survival benefit^[19]. The primary aim of treatment in patients with metastatic disease is palliation of symptoms to help such patients live a quality life and let them die peacefully rather than agony from the advanced disease. In present both cases, bony metastases are treated by palliative radiotherapy. Due to poor general condition of my first patient, single agent weekly gemcitabine started but the patient after taking 1st cycle chemotherapy lost to follow-up but the second patient having good health started on Gemcitabine + Cisplatin based chemotherapy and doing well. It will be interesting to see how this patient behaves in due course of time. However, the prognosis in these cases is unpredictable as very few cases have been reported.

Conclusion

Although rare, an occult gallbladder carcinoma may present with pathological fracture and/or severe bony pain due to metastasis. Early detection and prompt treatment would lead to better prognosis and improve the outcome.

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Conflicts of Interest: None

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