

## SKELETAL METASTASIS AS INITIAL PRESENTATION OF GASTRIC CANCER - A RARE CASE REPORT

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### ABSTRACT

The skeleton is a commonest site of metastasis for visceral carcinoma. The presentation of Gastric cancer as bony metastasis without any initial gastric symptoms is a rare presentation and is reported infrequently in literature. We report such a case of 50 years old female presenting with low back ache which subsequently diagnosed as gastric carcinoma with skeletal metastasis. The gastric cancer with skeletal Metastasis has elevated Alkaline Phosphatase levels, while this case had normal alkaline phosphatase level which is unusual. The Gastric cancer produces predominantly osteolytic lesions. This case has both osteolytic and osteoblastic lesions which is rare.

### INTRODUCTION

The carcinoma of prostate and breast commonly metastasize to bone. The gastric cancer infrequently metastasizes to bone. Gastric cancer usually present as abdominal pain, weight loss, nausea and vomiting. It's very rare for a gastric cancer to present as skeletal manifestation without any prior above said gastrointestinal complaints. We report such a case which presented with low back ache and had mixed lesion (both osteoblastic and osteoclastic) in pelvis which on further evaluation found to have adenocarcinoma of stomach.

**Keywords:** Gastric Cancer, Skeletal Metastasis

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### CASE

A 50 years old female postmenopausal by 3 years presented with severe low back ache for six months. Patient pain gradually increased in severity since 3 months and it was 10/10 in 0-10 pain scale at the time of presentation. Patient had been consulting general practitioners and was receiving analgesics but her symptoms have not reduced. Patient did not have any root pain or weakness of lower limbs or bowel and bladder disturbances. Patient did not have any history of weight loss abdominal pain, nausea, vomiting or hematemesis or melena.

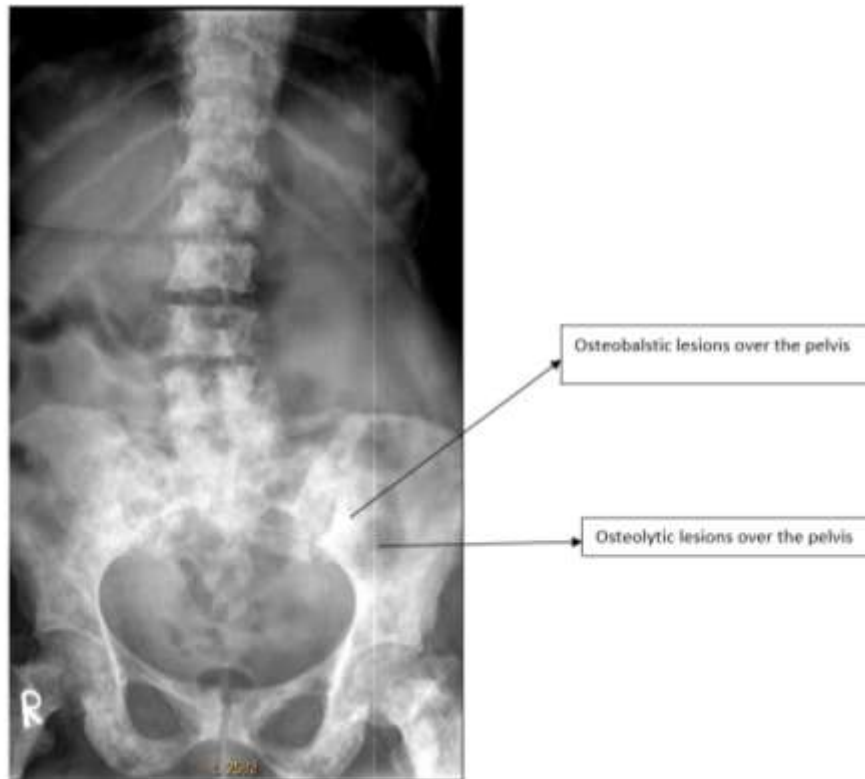
On examination patient did not have any spinal tenderness and her power, tone, reflexes were normal in both the lower extremities. Patient did not have any lymph nodes enlargement. Patient breast examination and gynecological examination were insignificant.

Patient blood investigation showed mild anemia with hemoglobin of 9.5 gm/dl and peripheral smear showed mild hypochromic and microcytic anemia with hyper segmented polymorphs. Patient alkaline phosphatase, calcium, phosphorous, renal function test and liver function test were within normal limits.

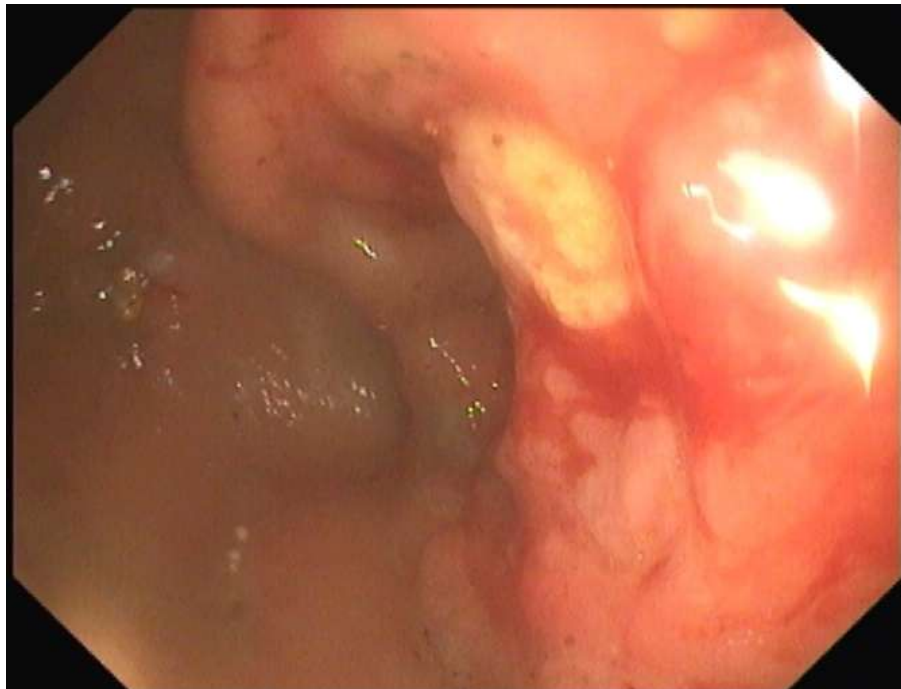
Patient Lumbo sacral Spine X ray showed (see fig 1) mixed osteolytic and osteoblastic lesions were seen in the pelvis and over the vertebra. Patient Chest X ray and Ultra sonogram neck was normal. Patient Ultra sonogram abdomen was normal except for mild hepatomegaly. Patient Upper GI scopy showed (see

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fig 2) an ulceroproliferative growth in the lesser curvature of stomach and which on biopsy showed poorly differentiated adenocarcinoma of stomach. Patient referred to oncology center for further management.



**Figure 1: X ray LS spine showing osteoblastic and osteolytic lesions over the LS spine and Pelvis**



**Figure 2: UGI scopy picture of stomach showing an ulceroproliferative growth in the lesser curvature**

## DISCUSSION

The burden of Gastric cancer is increasing and about 1.09 million cases have been reported by WHO till 2020 (Ferlay *et al.*, 2020). The gastric carcinoma is the 4<sup>th</sup> most common cause of cancer related deaths with 7, 69,000 deaths till 2020 (Ferlay *et al.*, 2020). The peritoneal membrane, liver, lymph nodes are the commonest sites of metastasis of gastric cancer (Crive Ilari *et al.*, 1995). The spleen, adrenal, ovary, lungs and brain are the less common sites of metastasis of gastric cancer (Crive Ilari *et al.*, 1995). The metastasis to bone in gastric cancer is very rare and it has very poor prognosis (Crive Ilari *et al.*, 1995).

There are only few cases of gastric cancer presenting as skeletal metastasis without any prior gastrointestinal symptoms reported in literature (Dittus *et al.*, 2014). The incidence of bone metastasis is variable in studies and it ranges from as low as 1% in clinical practice to as high as 45 % in screening studies (Turkoz *et al.*, 2014). This implies that many of the bone metastasis are asymptomatic.

The serum alkaline phosphatase levels are elevated usually in gastric cancer with skeletal metastasis (Jae Bong Ahn *et al.*, 2011). Kusumoto *et al* reported that almost all the patients of gastric cancer with skeletal metastasis had elevated alkaline phosphatase (Kusumoto *et al.*, 2006). However in this case the alkaline phosphatase levels were normal in spite of skeletal metastasis.

The Skeletal metastasis is classified as osteoblastic, osteolytic and Mixed lesions (involves both osteolytic and osteoblastic lesions) (Macedo *et al.*, 2017). Osteoblastic is characterized by deposition of new bone, present in prostate cancer, carcinoid, small cell lung cancer, Hodgkin lymphoma or medulloblastoma (Macedo *et al.*, 2017). Osteolytic is characterized by destruction of normal bone, present in multiple myeloma (MM), renal cell carcinoma, melanoma, non-small cell lung cancer, non-hodgkin lymphoma, thyroid cancer or Langerhans-cell histiocytosis (Macedo *et al.*, 2017).

According to a retrospective Italian analysis the skeletal manifestations in gastric carcinoma are predominantly osteolytic (Silvestris, *et al.*, 2013). While this case has mixed osteolytic and osteoblastic lesions in pelvis.

## CONCLUSION

This case is significant for following reasons

- It highlights the clinicians that Gastric carcinoma can present initially as low back pain without any prior gastrointestinal symptoms which are the classical symptoms of gastric cancer and a high level of suspicion is needed.
- The skeletal manifestation of gastric cancer can occur even with normal alkaline phosphatase levels.
- The commonest type of skeletal lesions in gastric adenocarcinoma is osteolytic but both mixed lesions (osteoblastic and osteolytic) can be the initial presentation.

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