Case Report

Gastric Carcinoma Presenting as Marrow Metastasis – A Case Report
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ABSTRACT
Gastric carcinoma primarily manifesting as bone marrow metastasis is very rare. Herewith we present a case of 50 year old male who initially presented with fever and easy fatigability. Haematological workup revealed leukoerythroblastic picture with thrombocytopenia. Bone marrow examination disclosed metastatic deposits of poorly differentiated gastric carcinoma. This case throws light on the rarity of gastric carcinoma presenting only as bone marrow metastasis in the absence of systemic spread or any specific complaints pertaining to gastric carcinoma.

KEYWORDS: Bone marrow metastasis, Gastric carcinoma, Leucoerythroblastic, Thrombocytopenia, Bone marrow, Anemia

INTRODUCTION
Bone marrow and bone are the common sites of metastasis for many solid tumours from breast, kidney, prostate, thyroid etc. Therefore it is essential to know the status of the bone marrow as it aids in staging and prognosis. However, bone marrow metastasis as an initial presentation is rare and the incidence is very low. More so for gastric carcinomas which is about 0–17%[1]. Anaemia may be the only manifestation in such cases who present to the outpatient department. Unexplained anaemia with microcytic hypochromic blood picture always warrants a gastrointestinal examination. In this case anaemia, thrombocytopenia and a leucoerythroblastic blood picture indicated a bone marrow pathology. Hence through a haematological workup helped to establish the diagnosis.

CASE REPORT
A 50 year old male presented to our hospital with complaints of low grade fever and easy fatigability since 3 months. His initial work up elsewhere revealed anaemia and thrombocytopenia. Hence he was being managed as a case of pyrexia with thrombocytopenia. Ultrasound was suggestive of bilateral renal parenchymal disease Grade-I. No hepatosplenomegaly, lymphadenopathy was noted. Haemogram showed microcytic hypochromic anaemia with a haemoglobin of 6.2 g/dl, total leucocyte count of 9,000 cells/cubic mm3, also thrombocytopenia with a platelet count of 4,0000 cells/mm3. RBC’s showed polychromasia, nucleated red blood cells (7 per 100 white blood cells), few intermediate norm oblasts were also seen. Reticulocyte count was 7%. White blood cells showed shift to left with few promyelocytes. In view leucoerythroblastic reaction and thrombocytopenia, bone marrow examination was done. It revealed marked suppression of all lineages with clusters and groups of atypical cells [Figure 1], few arranged in glandular pattern [Figure 2]. Individual cells showed moderate
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amount of cytoplasm, round to oval nuclei some showing prominent nucleoli. Few singly scattered signet ring cells showed vacuolated cytoplasm and eccentrically placed nucleus. With the above features a diagnosis of metastatic deposits possibly from gastrointestinal tract was suggested.

On review the patient gave a history of hematochezia on few occasions. With this history, upper gastrointestinal endoscopy was done. Endoscopy revealed large excavated ulcer H/P (Fig. 5) at the junction of body and antrum and a biopsy was obtained from the same. Histopathology showed an ulcerated mucosa with dense chronic inflammatory infiltrate in the lamina propia [Figure 3] and a small focus with dysplastic glands and scattered signet ring cells. Periodic acid Schiff and Alcian blue stains [Figure 3, 4] highlighted the signet ring cells. A diagnosis of poorly differentiated adenocarzinoma–signet ring cell type was made. There was no evidence of systemic spread on computerised tomography scan. The patient was then referred to regional cancer centre for further management.

DISCUSSION

The present case exhibits an unusual presentation of gastric carcinoma with only bone marrow metastasis without any symptoms or signs of systemic metastases. Stomach cancer is one of the leading causes of cancer in southern India[2]. Bone metastases usually develop in late stages of gastric carcinoma with widespread systemic metastases. Bone metastases as initial presentation of gastric cancers are rare. Metastases to the bony skeleton from gastric carcinoma had an incidence of 13.46% in autopsy specimens[3] M.K. Mohandeset al proposed an incidence of 0–17% of bony metastasisin gastric carcinoma. Median age of presentation of patients with gastric carcinoma with bonemetastasis was 46 years[4].

Bony metastasis is more common in younger patients with lumbar and thoracic vertebrae being the most common sites of involvement and is usually of the osteolytic type[5]. Metastases to bone usually occur in areas that contain red marrow. Metastatic deposits destroy and replace bone, partly by their own expansion and partly by stimulating active bone resorption. The exact mechanism of spread to the bone in gastric carcinoma is not known. It has been proposed that the rich supply of blood capillaries in the gastric mucosa contributes to the early spread of cancer to the bone[6]. It is also suggested that an alternate non-portal route through the vertebral venous plexus may be the route of bone metastasis from gastric carcinoma[7].

Various studies revealed that 86% of bone metastasis was from a poorly differentiate adenocarcinoma and that the stroma was scirrhous in nature in almost all cases. Bormanntypes III and IV are the predominant types of gastric cancer associated with bone metastases[8]. In most patients with neoplastic infiltration of marrow, the peripheral blood findings do not differ significantly from those of patients with malignancy without marrow involvement. Seitanides et al. suggested increased red cell volume distribution noted in 90% of patients with marrow infiltration, as compared to patients with malignancy without marrow involvement.

When an abnormality exists, anaemia is generally the most common finding. Yoshikawa Ketal concluded that thrombocytopenia (80.8%) was the most common peripheral blood finding in gastric carcinomas with metastases to bone marrow[10,11,12]. Leukoerythroblastic anaemia arises when the bone marrow is replaced. It is most commonly seen with solid tumours from carcinoma of the breast, kidney, thyroid, prostate, lung and stomach with gastric carcinoma being least common. The present case showed aleucoerythroblastic picture warranting abone marrow examination.

The prognosis of patients with bone marrow metastasis is poor as the clinical course is refractory to conventional treatment. The mean survival time is about 5 months after the appearance of symptoms[9].
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CONCLUSION

This case emphasizes the need for a thorough haematological workup for every patient presenting with microcytic hypochromic blood picture, leucoerthroblastic reaction and cytopenia to clinch the diagnosis when marrow is involved. Gastric neoplasm may rarely involve the marrow, therefore should be considered in the differential diagnosis of metastatic bone lesions with unknown primary.
REFERENCES


