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## Disseminated Skeletal Secondaries as the First Presentation of a Silent Gastric Malignancy. Rare Presentation of a Gastric Cancer -Third Reported Such Case in a Female.

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### ABSTRACT

We report a case of gastric carcinoma which presented mainly with vague limb symptoms. 35 year old housewife had pain in her both thighs for two months duration. She was thin built and moderately nourished; had slow waddling gait; had no tenderness on the spine or lower limbs. Her lumbosacral spines X-ray had diffuse mottling of all the bones of the pelvis and spine. She had thrombocytopenia, leucocytosis, bicytopenia with polymorpho leucocytosis and atypical normoblastosis. Her MRI of all the vertebrae, sacrum, pelvis and visualized femur bilaterally suggested diffuse metastases. Ultra sonogram of abdomen and pelvis showed irregular thickening of the stomach wall, along the proximal body, fundus and cardia of the stomach. There was involvement of liver, ovaries adnexa. From the above thickened site of stomach, which was suspected to be a possible primary lesion, a biopsy was obtained, by oesophago gastro duodenoscopy. This was reported as an ulcerated gastric mucosa with underlying diffuse sheets of neoplastic cells. Some signet ring appearance consistent with a poorly differentiated diffuse type of adenocarcinoma of stomach. This case of gastric carcinoma presented with indistinct musculoskeletal symptoms to an orthopaedic surgeon. One cannot afford to miss and dismiss any vague diffuse pain without investigating.

**Keywords:** skeletal, gastric malignancy

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## INTRODUCTION

Lord Moynihan had named gastric carcinoma as “Captain of the Men of Death”. It can present as silent, tumour, obstruction, malena anemia, cachexia and hemetemesis.[1] Secondaries of this goes to celiac nodes and later to the left supraclavicular lymph node. The bone secondaries are rare. Here we report a case of gastric carcinoma which had different type of presentation with mainly limb symptoms.

### Case report

A 35 year old housewife had pain in her both thighs for the past two months. A non smoker, non- alcoholic she was a married women with two children. Her husband was working in the middle-east. On examination she was thin built and moderately nourished .When asked to lie for examination of spine and lower limbs, she walked with weak and slow waddling gait to the couch. She did not have any definite tenderness on the spine or lower limbs. There were no deformities or neuro-deficit. On the same day of presentation an X-ray of lumbosacral spine with pelvis was taken and it is shown in figure 1. There was diffuse mottling of all the bones of the pelvis and spine.

**Table 1: Results of the blood investigations of the patient on first day of presentation.**

Investigation	Result	Normal range
Blood glucose	134.5milligram /decilitre,	90 – 150 mg/dl
Uric acid,	5.08 mg/dl,	2.7 – 6.5 mg/dl
Haemoglobin	9.3grams %,	9.9 – 13.6 gm%
Erythrocyte count	<b>3.60 millions,</b>	4.0 – 5.5 millions
White blood count	<b>29.1 thousands</b>	3.1 – 10.3 thousands
Hematocrit	<b>28.9%</b>	30.2 – 42.3 %
Mean Corpuscular Volume ,	80.3f litre	78.6 – 102.2 fl
Mean Corpuscular Haemoglobin	25.8pg,	25.2 – 34.7 pg
Mean Corpuscular Haemoglobin Concentration	32.2g/dl	31.3 – 35.4 g/dl
Lymphocyte	24.9%,	15 – 45.8 %
Neutrophils	54.1%,	43.7 – 77.1 %
Mixed cells %	21.1.	1.3 – 25.9 %
Erythrocyte Sedimentation Rate for one hour.	100 millimetres	2 – 15 mm
Rhematoid Arthritis Factor	Negative	up to 20 IU/ml
Platelet count	<b>46 thousands</b>	128 – 434 thousands



**Figure 1: Diffuse mottling of all the bones seen in the pelvic and lumbar spine X-ray.**

**Table 2: Results of the blood investigations of the patient on second day of presentation.**

Creatinine	0.88mg/dl	0.6 – 1.2 mg/dl
Urea	36.1mg/dl	( 13 - 45 mg/dl ),
Amylase	36.37IU/L	( 22-80IU/L),
Lipase	34.24IU/L	( upto 60IU/L),
Cholesterol	154.6mg/dl	140 – 250 mg/dl
Total protein	4.79g/dl	(6g/dl),6.0 – 8.3 mg/dl
Albumin	2.41g/dl,	3.2 – 5.0 mg/dl
Total bilirubin	0.79 g/dl(1mg/dl),	up to 1.1 mg/dl
Direct bilirubin	0.24mg/dl	up to 0.25 mg/dl
Indirect bilirubin	0.55mg/dl	up to 0.75 mg/dl
Serum Glutamate Oxaloacetate Transaminase	65.95 IU/dl	(37),up to 31 IU/L
Serum Glutamate Pyruvate Transaminase	56.93IU/dl	(42),up to 32 IU/L
ALP	19.26IU/L	36 – 113 IU/L
Bleeding Time	2 minutes	(2-4 minutes)
Clotting Time	4 minutes	4-8 minutes
Prothrombin time	16 seconds	11-16 seconds
Activated Partial Thromboplastin Time.	40 seconds	18-28 seconds
<b>Tumor marker analysis</b>		
Alpha FetoProtein	0.819 IU/ml	0.5 - 5.5IU/ml
Carcino Embryonic Antigen	> 1000ng/ml	( 0.0—4.9 ng/ml),
Beta Human Chorionic Gonadotrophin	1.6 MIU/ ml	0 – 5 MIU/ml
CA 19-9	> 700U/ml	(0-40U/ ml),
CA 125	>600U/ml	(0-30U/ ml).
<b>Levels of electrolytes</b>		
Sodium (Na)	132.8 mmol/L	(135-145mmol/L),
Potassium (K)	3.77 mmol/L	(3.8-5.2 mmol/L),
Chloride (Cl)	95.6mmol/L	(99-110 mmol/L)
Bi carbonate (HCO <sub>3</sub> )	18.9 mmol/L	(22-30 mmol/L).
Vitamin B <sub>12</sub> levels	2000pg/ml	211-911 pg/ml)
Serum folic acid	5.7ng ml	3.1 – 20.5 ng/ml

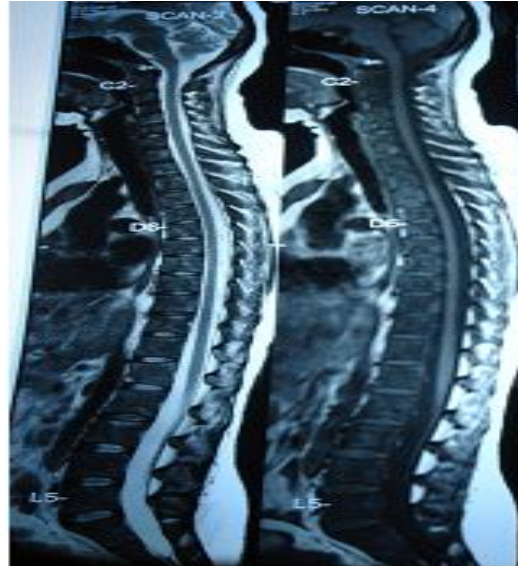


Figure 2: MR images of the patient's spine showing diffuse metastasis.



Figure 3: From left to right showing the ultrasound- views of thick stomach wall, spleen, adnexa and lesions in the liver.

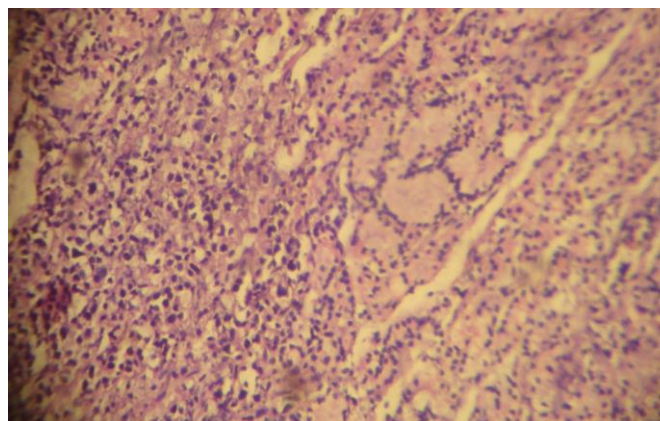


Figure 4: Normal gastric mucosa (on the right) with cell infiltrate (on on the left side) magnified 100 times.

The results of her blood investigations done on the patient are seen from Tables 1 and 2. There was thrombocytopenia, leucocytosis. An MRI of entire spine including pelvis and thigh and Ultrasonogram of abdomen were ordered. Her MRI done the next day (figure 2) showed diffuse altered signal intensity changes (hypo intense in T1 and mildly hyper intense in T2 weighted sequences) of all the vertebrae, sacrum, pelvis and visualized femur bilaterally. There was no collapse or destruction of the vertebral bodies or associated soft tissue component. The appearance suggested diffuse metastases. Her ultra sonogram of abdomen and pelvis (figure 3) showed irregular thickening of the stomach wall of thickness varying from seven mm to 14 mm, along the proximal body, fundus and cardia of the stomach. This involved 10 cm of greater curvature. There was trans-mural involvement and minimal infiltration into the peri-gastric fat plane with multiple discrete lymph nodes (8 to 18 mm in the long axis) along this curvature and also in the peri-pancreatic region. In both lobes of liver there were many, round to oval, mildly hypo-echoic lesions ranging from two -26 mm. The ovaries were not separately identified but seen as two large fairly homogenous irregular well defined, mildly hypo-echoic solid appearing lesions detected in the adnexa one on either side (left side mass 6.9 x 5.7cms / right side 6.5 x 5.2 cms) into retro-uterine region displacing the uterus anteriorly. Peripheral smear showed bicytopenia with polymorpho Leucocytosis and atypical normoblastosis. Further blood investigations are shown in table 2. She tested negative for HIV, HbS Ag and HCV. Thus the initial ultra sound imaging led to a possible primary lesion in the stomach.

By the second author, an oesophago gastro duodenoscopy was done. This showed diffuse thickening of mucosa at the gastric fundus, an appearance was similar to linitis plastica. From this region, relying on the site of thickening in the ultrasound, a biopsy was obtained. This biopsy was reported by the third author and presented in figures 4 and 5. The finding was of an ulcerated gastric mucosa with underlying diffuse sheets of neoplastic cells. These cells had hyperchromatoic pleomorphic nuclei, nucleomegaly and eosinophilic to vacuolated cytoplasm. Some cells had signet ring appearance. The findings were consistent with a poorly differentiated diffuse type of adenocarcinoma of stomach. Both her husband and her father who were abroad were advised to travel back to India. The patient's husband was counselled about the nature of the disease and the chance of chemotherapy only if the platelets count increased to 100000. She had platelet infusions and fresh frozen plasma infusions. Still the platelet count did not improve. She was taken home and passed away on the eighth day of diagnosing the secondary. Ironically on slightly philosophical aspect, the only satisfaction of the team of doctors is that they were able to bring the patients close relatives around her during her last days.

Gastric carcinoma rarely metastases to bone.[2] In vague presentations without abdominal symptoms as seen in most case reports bone biopsy was done and the cell of primary origin was found.[3,4] In the present case the primary was located using an ultrasound and hence able to secure a biopsy with a non-invasive technique. For ethical reasons we did not do a bone biopsy. In general most reported cases of gastric carcinoma metastasising to bone were males. [3] Only two reported cases were females.[3,5] We report the third female patient to have a bone -secondary from gastric carcinoma as far as we know.



We wish to emphasize certain aspects in this regard. A vague pain over the thighs in a middle age lady is a common problem. This lady lived with her two children and her husband was abroad. Such pains are easily dismissed as functional. This case presented with similar indistinct musculoskeletal symptoms to an orthopedic surgeon. One cannot afford to miss and dismiss any vague diffuse pain without investigating.

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