CASE REPORT ON LINITIS PLASTICA

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ABSTRACT:

Background: Linitis plastica (gastric cancer) are the rare histopathological condition and there has been less reported of gastric cancer of thickening of gastric wall.here we present a case of oesophagus with regressed lesion,hetrogenously enhancing circumferential transmural wall thickening involving distal body and antropyloric region of stomach causing moderate luminal narrowing with locoregional lymphadenopathy as described-likely neoplastic etiology of cancer can be trated by chemotherapeutic agents.

Case report: A 55 year old male patient was admitted to hospital with clinical symptom of pain in abdomen epigastric and umbilical region with bleching .physical examination abdomen looks scaphoid shaped with umbilicus curved and threated with mild tenderness ,precussion indicate resonant sound is low-grade FDG avid eccentric heterogeneously enhancing wall thickening in the distal oesophagus, GE junction extending along the lesser curvature of stomach, maximum wall thickness of approximately 7 mm and extending for a length of approximately 3 cm (max SUV 4.9); there is mild luminal compromise with upstream dilatation .circumferential mural thickening noted in the distal body antropyloric region of the stomach, maximum wall thickness of 2 cm and extending for a length of about 6.7 cm (ma SUV 7); there is mild luminal compromise seen however there is no evidence of obstruction; diffuse perigastric fat stranding seen.There are a few low grade FDG avid perigastric lymph nodes, largest measures approximately 9 x 9 mm (max SUV3.5). First cycle was treated with chemotherapeutic drugs (Cisplatin,docetaxel,5FU) patients improvement is seen and decreasing frequency of symptoms and continue the second cycle.

Conclusion:given the feature of disease and the difficulty in surgical therapy. chemotherapy should be used to ensure control of growth of the cancer cells.

Key words: Linitis plastica, gastric cancer, Chemotherapy

INTRODUCTION:

The term “Linitis plastica”refer to a thickening of the stomach wall, with a lack of distensibility and rigidity that affects more than one-third of the stomach’s surface circumferentially. At least two of the three staging strategies must have been used to confirm these features.[1]

The term Linitis plastica (LP) was first used in the field of medicine in 1779 by Lieudaut to refer to a hard and scirrhous kind of gastric tissue with fatal end .[2] the stomach with particular anomalies,such as sub-mucosal hypertrophy made mostly of connective and muscle tissues. The microscopicthickening of gastric wall Linitis is named for its microscopical appearance,which consist of band of filments that resemble linen .as a result, if the tissue contains few cancer cells. Whether this was a benign or a malignant condition remained in dispute for a very long period.[3]

In 7 to 10% of patients ofprimary gastric cancer,linitis plastica develops[4]. Between 3 to 19% of stomach carcinoma are affected by it .[2] Diffuse tumors are more common in younger and female patients.[3]There is a lot of study being done to determine the precise cause of linitusplastica because the etiology of condition is not entirely understood the American and asia populations especially in Japan, Korea, and China, have higher rates of gastric cancer overall and LP as a subtype .this may be related to the kind of diet ,particularly a low-fiber diet ,or the population’s ethnic makeup[5,6].On the other hand, LP is not connected to chronic activegastritis or *H.pylori* infection. The CDH1 gene and the HER2 gene are just two example of the genetic variables that aresignificant[7].Due to the stomach's poor sensitivity to its volume limitation, linitis plastica is typically asymptomatic until the condition is progressed. The majority of symptomatic cases (55%) also had vomiting in addition to dyspepsia. Due to the infiltration of the submucosa and muscular layer with gastric wall stromal thickening, dysphagia (33%) and regurgitation of food from the oesophagus (33%) are both related with a significant restriction in the stomach's ability to expand. Stomach ache, a lumpy feeling in the epigastrium, and accidental weight loss are among the symptoms.[8,2]

Some writers decided to completely drop the term "linitis plastica" due to its poor clinical importance as a distinct condition and difficulty adding it to existing classification schemes. This is made easier by the fact that there isn't universal agreement on the definition of LP because it overlaps with other cancer types that also have signet ring cells. This is not universally accepted because some people believe that this is a disease with recognised risk stratification and that managing patients by forecasting the cases prognosis[9,3]

There are various classification schemes for stomach cancer, however none of them are considered to be the best. Here is a summary of the most popular categories:

- Lauren classification: its categorised in line with genesis into , and tiny appearance diffuse (which resemblesBormann type 4 and LP), intestinal (having a glandular like structure) mixed or undetermined forms.[3]

- According to the WHO classification, describing cancer's microscopic appearance is a key factor.to the following (as its principal limiting characteristic): papillary,mixed adenocarcinomas that are tubular, mucinous, and weaklycohesive (which includes the recognisable signet ringcells).[10]
- Cancer stromal volume classification: this which includes medullary, intermediate, and scirrhous forms, with the latter being the most common, based on the abundance of stromal tissue. It belongs to the Japanese classification and has traits similar to Bormann types 3 and 4.[11]
- According to the Bormann classification, it is primarily used in Eastern Asian nations. Due to its thicker gastric mucosa and widespread infiltrating feature, LP resembles Bormann type 4 in this categorization. The difference is mainly due to the predominance of infiltration in LP being more prevalent in the submucosa, which may induce hypertrophy and folding of the mucosa. It is especially common in females and young people. More than one-third of it has infiltrated the upper gastric body, where it is primarily located. [12]

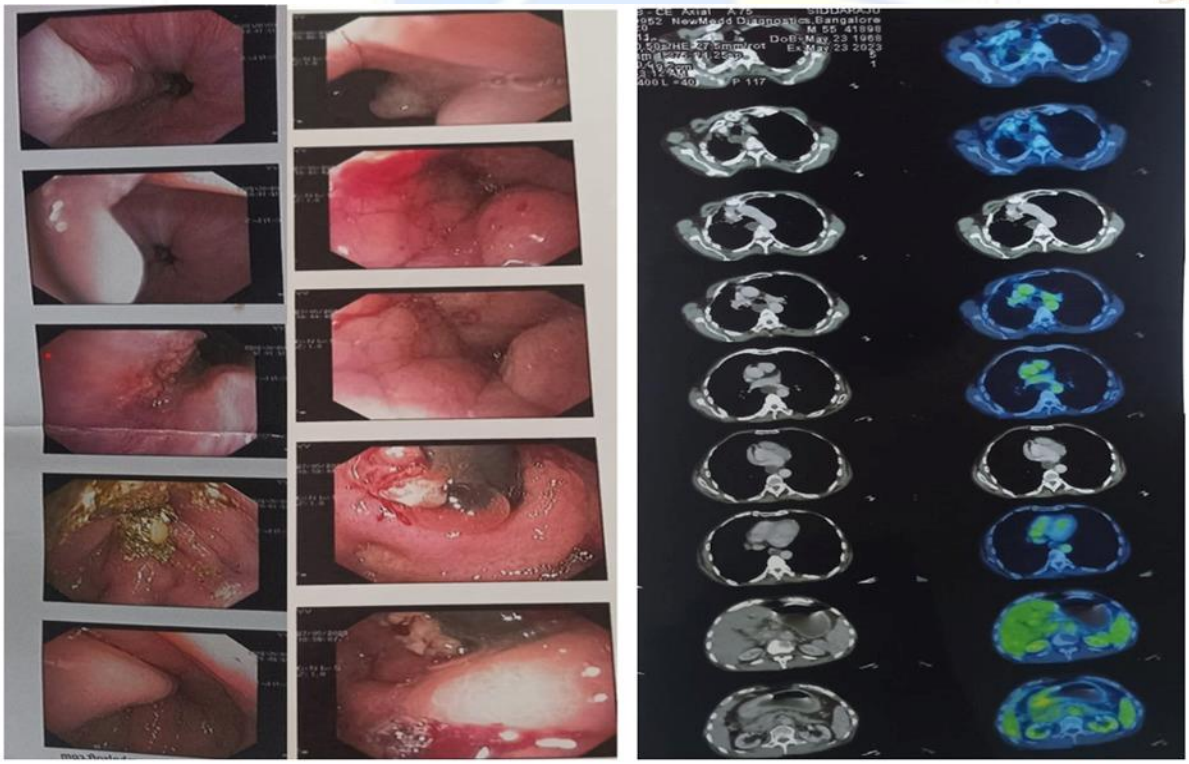
The following are some significant differential diagnoses that should be taken into account when determining whether linitis plastica is present.Due to the degradation of the mucosa and lack of mucosal folds, atrophic gastritis may cause malnutrition, dyspepsia, and impaired distensibility. Chronic hypertrophic H. pylori gastritis may mirror the LP-related submucosal infiltration-induced hypertrophy of mucosal folds, but here the distensibility will be unaffected. Corrosive gastritis (the history will reveal that it is also accompanied by corrosive esophagitis). Other diffuse infiltration disorders include lymphoma, GIST, non-Hodgkin lymphoma, adenocarcinoma, and Bormann types 3 and 4 (histopathological differentiation will fix the problem).Watermelon stomach with hepatic decompensation and symptoms of portal hypertension, as well as lack of distensibility due to the congestion.loss of stomach volume and distensibility following partial gastrectomy (prior surgery's history is known)[13]

Treatment includesEndoscopic mucosal resectio, Surgery, Gastrectomy,(Subtotal gastrectomy, Total gastrectomy) , Endoluminal stent placement, Endoluminal laser therapy ,Gastrojejunostomy, Radiationtherapy,Chemotherapy(Capecitabine,Cisplatin,Docetaxel,Doxorubicin,Epirubicin,Fluoruracil,Irinotecan,Leucovorin,Oxaliplatin,Paclitaxel,Trifluridine) Targeted therapy (Nivolumab,Pembrolizumab), Hypertheramic intraperitoneal chemotherapy [HIPEC]

CASE PRESENTATION:

We report a case of 55 year old male patient whose clinical symptoms were started in May 2023 before 6 months patients was suspected the Gastroesophageal cancer and took ayurvedic treatment but it is not worked. Presently had complaints of pain abdomen science 20 days in the epigastric and umbilical region with belching. General physical examination blood pressure was 130/80mmhg,pulse rate 82bpm,cardiovascular sounds s_1,$s_2$heard, central nerve system no abnormality detected pallor was positive and in systemic examination inspection indicates (Abdomen looks scaphoid shaped and all corresponding quadrants moving equally with respiration. Umbilicus was curved and threated with mild tenderness ,percussion indicate resonant sounds)

- Laboratory Investigation includes histopathological report of Growth in antrum of stomach view features of suggestive of mild chronic inflammation with Foveolar Hyperplasia. Histopathological reports of Antral biopsy,GE junction view features are Suggestive of Adenocarcinoma-Moderately Differentiated -G.E junction nodular mass. UGI endoscopy indicate Cancer of Oesophagus with regressed Lesion and F 18FDG PET CT scan is a useful imaging modality in the detection of early diagnosis and extent of vasculitis in patients with suspected large vessel vasculitis. It is also useful to obtain a biopsy.In this patients there is low-grade FDG avid eccentric heterogeneously enhancing wall thickening in the distal oesophagus, GE junction extending along the lesser curvature of stomach, maximum wall thickness of approximately 7 mm and extending for a length of approximately 3 cm (max SUV 4.9); there is mild luminal compromise with upstream dilatation .circumferential mural thickening noted in the distal body antropyloric region of the stomach, maximum wall thickness of 2 cm and extending for a length of about 6.7 cm (ma SUV 7); there is mild luminal compromise seen however there is no evidence of obstruction; diffuse perigastric fat stranding seen.There are a few low grade FDG avid perigastric lymph nodes, largest measures approximately 9 x 9 mm (max SUV3.5). There is omental haziness and nodularity with low grade FDG uptake.No abnormal enhancing or FDG avid lesions in the brain, lungs, liver, adrenals or the skeleton .



UGI endoscopy F 18FDG PET CT scan

Figure 1: Imaging study reports

- CECT of Abdomen and Pelvic indictsheterogeneously enhancing circumferential transmural wall thickening involving distal body and antropyloric region of stomach causing moderate luminal narrowing with locoregional lymphadenopathy as described-likely neoplastic etiology- Suggested HPE correlation with eccentric wall thickening involving distal thoracic esophagus,gastroesophageal junction- likely residual lesion.Bilateral simple renal cortical cyst-BOSNIAK type 1 and Left minimally

complex renal cortical cyst- BOSNIAK type II,Illdefined lobulated hypodense peripherally enhancing lesion segment IVb of left lobe of liver.PET-CT scan in this patient of carcinoma esophagus post chemotherapy for reassessment; current PETCT study shows mildly metabolically active eccentric mural thickening involving the distal thoracic esophagus, GE Junction as described above-likely to represent residual primary malignancy and mural thickening involving the distal body and antropyloric region of the stomach as described above-synchronous primary gastric malignancy. Recommend OGD biopsy correlation.Metabolically active perigastric lymph nodes and omental nodularity- metastatic.

Past history of Percutaneous transluminal coronary angioplasty (PTCA) 15 years back on regular medication such as Tab. Prolomet XL 25mg ,Tab. Ecospirin AV (75/20),Tab. Dytor plus (10/25) but present reports 2D Echocardiography shows Post PTCA status,Mild Concentric left ventricular hypertrophy,Normal left ventricular systolic function, EF 60%,Grade 1 LV diastolic dysfunction,Mild TR, PASP 31mmHg and wild AR,Sclerotic Aortic Valve,No regional wall motion abnormality,Normal RV function No clots, No pericardial effusion,IVC normal, collapsing,Poor echo window.

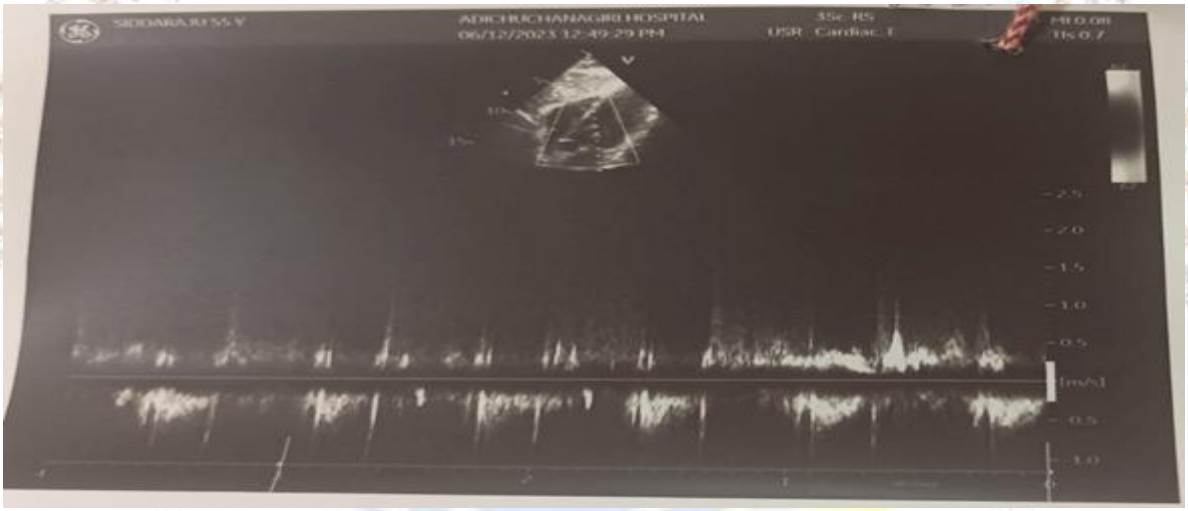


Figure 2:2D Echocardiography

Other investigation are Haemoglobin 15.9 gm/dl, Total white blood cell(WBC)count 12090cells/Cumm ,RBC 6.48 10^6/l Platelet count 5.09 Lakhs/Cumm and Neutrophile ,Lymphocytes, Monocytes ,Basophile are in normal numbers.

DISCUSSION:

Stomach cancer incidence rate is reported to be ~1.6%. It presents as a myriad of non-specific symptoms, which often lead to diagnostic and therapeutic delay. Therefore, about 85% of patients are diagnosed with metastatic disease on initial presentation. Diagnosis of diffuse infiltrative gastric adenocarcinoma can be challenging because superficial mucosa is often normal which can give false-negative results.[14]In this case, first Upper GI endoscopy and Histopathological reports shows Oesophagus inflammation with foveolar hyperplasia with Adenocarcinoma -moderately differentiated GE junction nodular mass. Few studies have compared the prognosis between patients undergoing palliative chemotherapy and best supportive care. Patients who received only supportive care had an overall survival of 9–16 days compared to 61–196 days in patients who were treated with palliative chemotherapy. Several palliative chemotherapy combinations

have been proposed to control the symptoms and improve overall survival, but no actual guidelines exist. Chemotherapy combining 5-FU and cisplatin is widely used in advanced gastric cancer that has demonstrated high tumour response rates and improved survival. Few other regimens include paclitaxel plus platinum regimen, docetaxel with cisplatin. Regardless of type of regimen, palliative chemotherapy has shown to improve overall survival compared to best supportive care. Unfortunately, the use of these chemotherapeutic agents is limited by the increased treatment-related toxicity. In this patients treatment includes inj. Cisplatin 50Mg in 500ml 5days for 2hrly, inj. Docetaxel 80mg in 500ml NS 2 hrly, inj. 5FU 1.5g in 500ml NS for 2 hrly ,iv fluids like Ringer lactate/ Dextrose normal saline for each 90 min, inj. Daxon 16g+inj Avil 2Amp in 100ml NS for 15 min ,inj Rantac iv 40 mg ,inj Ondansetron 16 g , syrupShark Ferrol daily with water ,Tab Dolo plus 425 mg are given in first cycle shows a results improving patient by decreasing symptoms of vomiting and nausea slightly decreasing pain in epigastric area . In second cycle was started after 7 months of first cycle medication fallows. Cisplatin 50Mg in 500ml 3days for 2hrly, inj. Docetaxel 80mg in 500ml NS 2 hrly , inj. 5FU 1.5g in 500ml NS for 2 hrly ,inj $MGSO_4$ 2amp as DNS for 2hour for 3 days ,inj Ondansetron 80 mg , inj pantoprazole 40 mg are given .

CONCLUSION:

A primary carcinoma of the stomach of the linitus plastica type are recorded. This type of cancer features are difficult to diagnose clinically but histopathologicaly detectable features are suggestive of adenocarcinoma moderately differentiated in gastroesophageal junction nodualar mass,mild chronic inflammation with foveolar hyperplasia. Few of the regimens are shown best results with combination of chemoagents such as paclitaxel with platinum regimen and Docetaxel with cisplatin.

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