Case Report

Beyond the GIST: A Case of Gastric Inflammatory Myofibroblastic Tumor

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Abstract

Primary inflammatory myo-fibroblastic tumor (IMT) is a very rare tumor. IMT in stomach is so rare that often misdiagnosed as gastric Gastro-Intestinal stromal Tumour (GIST). The prevalence, etiology and pathogenesis of this condition are still uncertain. It usually affects the lung and most commonly found in children and young patients. Despite the use of modern laboratory techniques and imaging, it is often difficult to make the diagnosis of IMT. So, diagnosis of gastric IMT is usually done post-operatively by immunohistochemistry examination. Usually IMT is positive to SMA and vimentin. Complete surgical excision is the treatment of choice. Though recurrence is common. We report a rare case of gastric IMT in a 58-year-old male patient which was diagnosed as gastric GIST initially.

Key words: *Gastric, Myo-fibroblastic tumor, Surgical resection.*

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Introduction

Primary inflammatory myo-fibroblastic tumor (IMT) is found commonly in lungs of young adults and children and is a very rare tumor of stomach in adults.[1,2] It encompasses a spectrum of myo-fibroblastic proliferation along with varying amount of inflammatory infiltrate. It has been named pseudo-sarcoma, lymphoid hamartoma, myxoid hamartoma, inflammatory myo-fibro-histiocytic proliferation, and most recently, inflammatory myo-fibroblastic tumor. This was because its uncertain biological nature, the concept of this lesion being reactive has been challenged based on the clinical demonstration of recurrences and metastasis and cytogenetic evidence of acquired clonal chromosomal abnormalities. There is no specific clinical or imaging characteristics. It can be benign or aggressive lesions, locally recurrent but it rarely metastasizes to distant organs.[3]

Case Summary

A 58 years old gentleman came to us with the complaint of sudden onset of upper abdominal pain. Pain was dull aching and burning in nature. He also complained of nausea and vomiting. Before the pain he ate a heavy meal. He was a known case of Diabetes mellitus, Hypertension, Ischemic heart disease. His Initial blood repot is given below (Table I). An Upper GI Endoscopy showed external compression from anterior wall of the stomach. Initial ultrasonography of abdomen showed a large heterogeneously enhancing mass lesion arising from anterior wall of the body of stomach. Later, CT scan of abdomen showed a huge exophytic soft mass of size about 9.5×10.2×10.2 cm (AP×CC×TD) in the body of the stomach arises from the wall of the greater curvature causing compression on the lumen. Pre-operatively, a diagnosis of GIST (Gastro-Intestinal stromal tumour) was made. At operation, an exophytic growth emerging from the body and antrum of stomach was seen with no infiltration to adjacent organs was noted. Total gastrectomy [Figure 1] with roux-en-Y Esophagojejunostomy and jejunojejunostomy was done. Histopathological [Figure 2] and immuno-histochemical examinations confirmed the diagnosis of IMT. The tumour was positive for SMA (Smooth muscle actin) and desmin, h-caledesmon stains occasional cells. CD34 and ERG stain only the vascular channels. Beta-catenin shows cytoplasmic staining. The cell are negative for ALK1, DOG1, CD117, STAT6, and SOX10. Focally IgG4 is increased upto 50-60/HPF with IgG of 120/HPF and IgG:IgG ratio upto 50%. Patient recovered well and was doing well till 6 months after surgery. Advise was given with follow up CT scan of abdomen 6 monthly upto one year.

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Table I: Investigations

Investigations	Results
Urine analysis	
Amylase	6.5
Lipase	Nil
RBS	Nil
Complete blood count	
White blood cell	15000/cmm
Red blood cell	5.01million/cmm
Platelet	183000/cmm
Hemoglobin	7.4 gm/dl
Hematocrit	40 %
Serum electrolytes	
Sodium	135 mmol/L
Potassium	1.74 mmol/L
Chloride	109 mmol/L
Bicarbonate	17 mmol/L
Serum	
CPK	1092 IU/L
Uric acid	512 umol/L
Creatinine	349 umol/
Spot Urine electrolyte	
Potassium	18 mmol/day
ABG	
pH	7.23
HCO3	10.9 mmol/L
Base Excess	15.1 mmol/L
Lactate	0.9 mmol/L

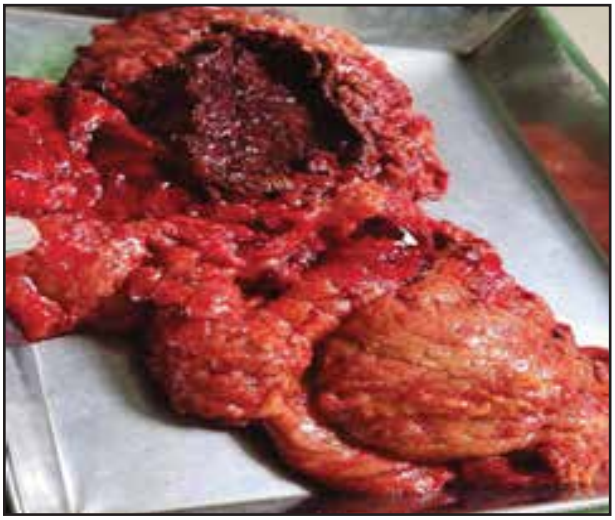

Figure 1: Showing resected IMT with part of stomach

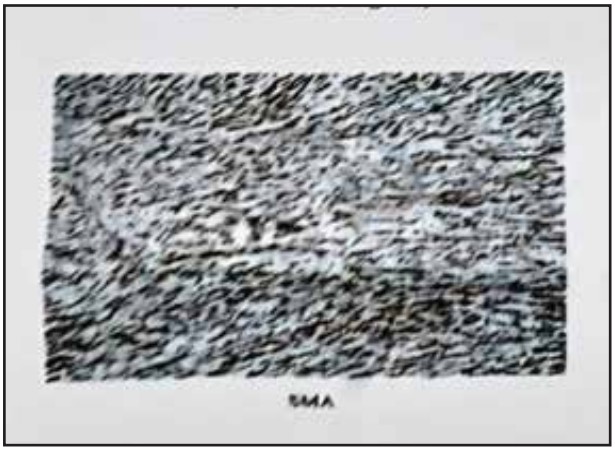

Figure 2: Showing histopathological findings of IMT

Discussion

The exact cause of IMT cannot be identified. It may be pre-disposed by infections, autoimmune or neoplastic in origin.[4] It usually involves lung and affect children and young adults; however, IMT can affect any organ of the body and any age group of patients.[2] Primary IMT of stomach is an extremely rare entity and usually confused with GIST, unless correlated with immunohistochemistry study post-operatively.[5] IMT is usually positive for SMA similar to this case.

Computed tomographic scan usually shows well-demarcated soft tissue masses with heterogeneous enhancement and areas of necrosis.[6]

Complete surgical resection is usually the treatment of choice with subsequent follow-up.[2] Gastric IMTs have relatively good prognosis, but recurrence rate of approximately 15% to 37% have been seen within a year after surgery.[1] Cases with recurrence or metastasis Chemotherapy and radiotherapy are advocated.[7]

Conclusion

Primary gastric IMT is a very rare disease that very closely mimics gastric GIST. Only post-operative immunohistology examination can differentiate IMT from GIST, which stains positively for SMA. The prognosis is usually good after resection with a chance to recurrence. So surgeon should keep in mind that, gastric IMT should be one of the differential diagnosis in cases of exophytic growth arising from the stomach.

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