# INFLAMMATORY FIBROID POLYPS OF GASTRO-INTESTINAL TRACT

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## ABSTRACT

**Objective: To review the diagnosis and differential diagnosis of inflammatory fibroid polyp (IFP) of gastrointestinal tract. Methods: The clinical symptoms, histopathologic features and immunohistochemical (ABC method) staining in 9 cases were observed. Results: IFP presented either as a solitary pedunculated or sessile lesion arising from the submucosa and protroding into the lumen; composed of a background of fibroblasts and blood vessels infiltrated by a variable number of inflammatory cells, often numerous eosinophilias leukocytes. Immunohistochemical staining: the spindle cells of all cases reacted with Vimentin. The partial cells of several cases react with Actin, NSE, α - AT. 7 cases were follow-up. No patients had a recurrence of the lesion. Conclusion: IFP are rare lesions, and may represent an exaggerated response to inflammatory or other injury process. The prognosis is good when treated by segmental resections of endoscopic removals.**

**Key words: Gastrointestinal tract, Inflammatory fibroid polyps, Immunohistochemistry**

Inflammatory fibroid polyps (IFPs) of the gastrointestinal are uncommon and may pose difficult diagnostic problems for clinicians and pathologists. First described as "gastric submucosal granuloma with eosinophilia" by Vanek[1] in 1949. The term IFP first proposed by Helwing and Ranier[2] for gastric polyp in 1953, and has gained acceptance for similar lesion of throughout gastrointestinal tract. The other names had been suggested, including eosinophilic gramuloma, inflammatory pseudotumor. Neurolioma, hemangiopericytoma.

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## MATERALS AND METHODS

Nine cases with IFP of gastrointestinal tract were reviewed. 5 of them from the files of Gulou Hospital, others from the consultation.

All cases with IFP were studied by hematoxylin-and-eosin, immunohistochemical (ABC method) staining from paraffin blocks. Monoclonal antibodies of Vimentin, SMA, NSE, FVIIIRA and multiclonal antibodies of Lysozym, α-AT, S100, Keratin, CEA were used.

## RESULTS

### Clinical Information

Nine cases with IFP were available for study. Three patients were male (33.3%), 6 female (66.6%). The patients ranged in age at diagnosis from 35 to 63 years (mean 46.6 years). Eight patients (88.9%) presented symptoms and signs of gastrointestinal tract, most of patients complained of abdominal distention and pain, usually episodic, part of patients complained of diarrhea, black stool, weight loss, constipation, and abdominal mass. Most patients had more than one presenting symptom. Seven patients were follow-up from 2 to 15 years. None of them had recurrence of the lesion (Table 1).

### Pathologic appearance

The 9 cases with IFP presented a solitary pedunculated or hemisphere with a broad base mass and ranged from 1 cm to 4.8 cm in size, with a mean of 2.5 cm. The overlying mucosa usually was ulcerated, and enteries were distorted by lesions, especially larger lesions. The lesions were localized

but nonencapsulated. The cut surface of lesions was hemogeneous, tan-white and firm. The bulk of the tumors layed in the submucosa in case 5, 7, 9. The lesions of case 1.8 filled the submucosa and infiltrated the muscular propria. The lesions of case 3, 4, 6 destroyed the entire muscularis and attached to serosal propria, the case 2 even involved mesentery.

The polyps were composed of a spindle, ovary and stiletto fibrous or fibroblast with variable sized blood vessels and a diffuse inflammatory cell infiltrated. The inflammatory cells included eosinophilic cells, lymphocytes, neutrophils, and plasma cells. Eosinophilias were common numerous. The spindle cells arranged in slight storiform structure in case 1 and 2, and arrounded vessels forming onion-like feature in some areas of case 1, 2, 4, 5, 6, 8 and 9. In some areas, anucellular areas of perivessel by edama, hylization were found in case 6 and 2. Various fibrosis and myxoid change were found in half lesions.

*Table 1. Clinical information of 9 cases with IFP*

| Case | Sex | Age | Location | Size (cm) | Symptom and sign | Follow-up |
|---|---|---|---|---|---|---|
| 1 | M | 35 | Small Bowel | 2.5 | Acute constipation, intussusception by X-ray partial enteric resection | 7 ysNR* |
| 2 | M | 49 | Colon | 3.5 | Pain and distention, episodic dirrhea with sometimes pyohemostool partial colonic surgical resection | 2 ys NR but remained episodic dirrhea |
| 3 | M | 60 | Antrum | 3.9 | Weight loss, black stool, abdominal pain and mass distal partial stomach resection | 5 ysNR |
| 4 | F | 42 | Ileum | 4.8 | Weight loss, anemia, abdominal distention, constipation, partial enteric resection | 15 ysNR |
| 5 | F | 48 | Antrum | 1.0 | Abdominal uncomfortable, endoscopic resection | |
| 6 | F | 51 | Small Bowel | 4.0 | Blood in stool, anemia, abdominal pain, distention and mass, partial enteric resection | 9 ysNR |
| 7 | F | 56 | Antrum | 1.5 | Pain and distention with peripheral eosinophilia endoscopic resection | 4 ysNR |
| 8 | F | 62 | Antrum | 1.5 | Weight loss, distention, black stool endoscopic resection | 5 ysNR |
| 9 | F | 63 | stomach | 1.2 | Found by physical examination, endoscopic resection | |

*NR: no recurrence

**Immunochemistry**

Immunohistochemical staining showed all cases positive for antibody of vimentin, 6 cases for actin, 3 for α -AT and Lysozyme, 2 for NSE, and all cases negative for CEA, keratin, S100, endoepithelium of the tumors reacted for FVIIIRA.

## DISCUSSION

The IFP affects both sexes and all ages, with peak incidence in the fifth and sixth decades. It is usually a solitary lesion, and frequently seen in stomach (70%), making up 3.1% of one series of one series of about 5500 gastric polyps, secondary in small bowel (20%), rarely in the esophagus or large bower.[3,4] In our cases, the lesions occurred frequently in stomach (55.6%), infrequently in small bowel (33.3%) and rare in large bowel. The patients were from 35 to 63 age ranges (mean 46.6). The clinical presentation were similar to those recorded in other series, including signs and symptoms of abdominal distention and pain, black stool, diarrhea, weight loosing, palpable mass in abdominal, constipation and intussusception. One case companies ulcerative colitis. One case had peripheral eosinophilia. It was difficult to diagnosis of IFP by X-ray and endoscopic examination. But endoscopic ultrasonographic analysis is helpful for preoperative diagnosis has been reported.[5]

The cause and genesis of IFP have remained obscure. Most authors agreed that IFP was a clinically and histologically separate entity and believed IFP to be a result of one the reactive processes rather than being of a neoplastic nature.[6,7] Some causes of this process include infect, foreign body and trauma.[8] But in this series clinical evidence of allergy, asthma and eosinophilic gastroenteritis were absent. The foreign organic granuloma was found in any lesion. The most

common mesenchymal cells were the fibrous and fibroblast cells by immunohistochemistry and electron microscopy, IFP was speculated from submucosal stromal cells.[9] In our cases, the tissue of lesion all expressed fibrous and fibroblastic feature. 6 cases of IFP stained for Actin, expressed of myofibroblast. The lesions in 3 cases of IFP reacted to α -AT and Lysozyme. It was not clear for reacting to NSE.

In routine work, IFP was easy confused with hyperplasia polyp(HP) of gastrointestinal tract in terminology. As definition of HP in WHO histologic type.[10] It is composed of major irregular hyperplastic gland with reactive stromal cells after erosion. Some authors suggested the term inflammatory pseudotumor.[11] But we preferred the term IFP. Because it rather better display pathologic character of infiltration.

Onion-skin appearance presented in some cases of IFP need to deferent from tumor of neural origin. In contrast to verocay body in neurofibroma, concentric fibrosis feature with centric vessel in the IFP. Inflammatory infiltration and negative for s-100 protein by immunohistochemical method discounted suggestion of a neural origin. In some areas of lesion in the IFP it was with rich vessels, and should be not confused with hemangioma. More slides examination will almost find predominent mesenchymal fibrous in the IFP. Inflammatory infiltration almost not be found in hemangioma. Immunohistochemical staining would be helpful for differentiation.

The fibroblastic and histiocytic nature of the IFP, particular with cellular areas, raises the possibility of malignant fibrous histiocytoma (MFH). However, the MFH is composed of pleomorphic fibroblastlike spindle cells arranged in a obvious storiform pattern and histiocytelike cells, and exhibit significant cytologic atypia and many mitotic figures, necrosis is common.[12] As IFP with larger size, and involved out of enteric tract, the inflammatory fibrosarcoma (IFP) of the mesentery and retroperitoneum should be excluded.[13] IFS usually affects young patients, involves mesentery with frequent transmural involvement and mucosal ulceration. Microscopically, the lesion is composed of fibroblast and myofibroblast, and with infrequent mitoses as partial lesions in IFP. But the tumor cells in IFS are cytological atypia and arrange in sweeping fascicles or whorled structure. The majority of inflammatory cells are nature plasmacyte. The lesion may locally invades abdominal viscera and occur metastases. IFPs are perfect prognosis, and the report about recurrence and metastases has not been found. Follow-up information was obtained from 7 patients in our series for 2 to 15 years. No patient had recurrence of the lesion.

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