A Case of Inflammatory Fibroid Polyp with an Elongated Shape in Cecum

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Inflammatory fibroid polyp (IFP) is a group of rare benign mesenchymal tumors throughout the gastrointestinal tract. The most involved sites are stomach and large intestines, followed by small intestines, esophagus, and anal canal. However, even in the stomach, its incidence is only 0.1% of all gastric polyps.[1] We here reported an IFP located in the cecum.

A 65-year-old woman had mild paroxysmal pain in the upper abdomen for 3 years. A colonic endoscopy performed in Taizhou People's Hospital found a cylindrical elongated, worm-like polyp with a narrow base in the cecum [Figure 1a]. The surface mucosa of the polyp showed multifocal erosion [Figure 1b]. No diverticulum, other polyps or mass were found during endoscopy. She subsequently underwent endoscopic resection of the polyp. Macroscopically, the resected sample consisted of a light pink, cylindrical, long-strip polypoid mass with a size of 100 mm × 8 mm. It had a mucosal surface and was nodular with a narrow base [Figure 1c]. The mucosa showed several small focal, dark red hemorrhages. Microscopically, the cylindrical polyp had a three-layer structure, with a mucosal surface covering the large bowel mucosa, mutilated muscularis mucosae, and submucosa in the stalk. The covering of mucous membrane was similar to normal colon mucosa and showed slight local thinning and mucosa lamina propria bleeding, which corresponded to the observed gross mucosal dark red area of hemorrhage. The submucosa was expanded and contained dilated and distorted lymphatic and blood vessels running in parallel with the long axis of the polyp [Figure 2a]. The veins were thick-walled and fibrous tissue hyperplasia was easily seen including numerous thin spindle cells wrapped around small blood vessels in an onionskin-like concentric pattern. In the mucosal and submucosal layers, moderate inflammatory cell infiltration was observed, including lymphocytes, plasma cells, and eosinophils, and occasionally lymphoid follicles in the deep lamina propria [Figure 2b and 2c].

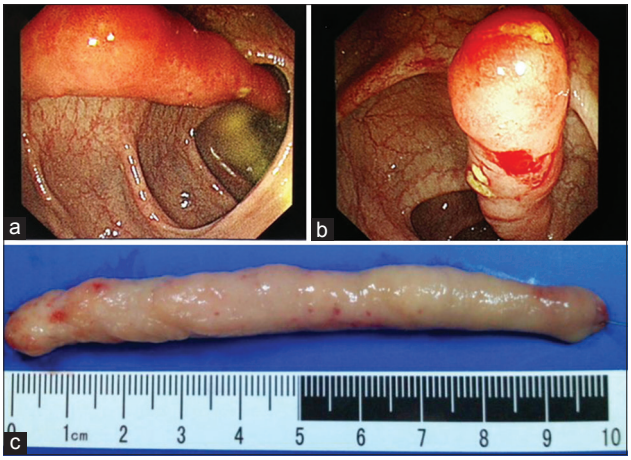

Figure 1: Endoscopic images of the inflammatory fibroid polyp in a 65-year-old woman. Colonic endoscopy showed a cylindrically elongated polyp with a narrow base in the cecum (a); the surface mucosa of the polyp had multifocal erosion (b); and the light pink, cylindrical, long-strip polyp had a mucosal surface and was nodular with a narrow base (c).

Immunohistochemical analysis showed that the spindle cells in the submucosal were positive for CD34 [Figure 3a] and negative for CD117, platelet-derived growth factor receptor-alpha (PDGFRA) [Figure 3b], DOG-1, S-100 protein, desmin, smooth muscle actin, fascin, and CD35. Ki-67 staining was <2%, indicating a very low proliferative index. The lymphocytes were mainly CD20-positive B cells and appeared in the lamina propria. Genetic analysis indicated a V824V synonymous point mutation in exon 18

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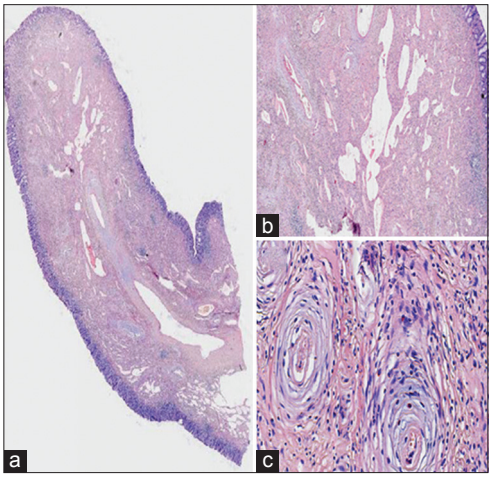

Figure 2: Microscopic images of the inflammatory fibroid polyp in a 65-year-old woman (hematoxylin and eosin staining). (a) Low-power view displaying the overall structure with normal mucosa, dilated lymphatic, and thick-walled blood vessels in the submucosa running parallel to the long axis of the polyp (original magnification ×20). (b) Medium-power view of dilated lymphatic and thick-walled blood vessels with fibrous tissue hyperplasia and inflammatory cell infiltration (original magnification ×200). (c) High-power view of onionskin-like concentric pattern with lymphocytes, plasma cells, and eosinophils infiltration (original magnification ×400).

of *PDGFRA* gene, with the valine codon GTC synonymous mutation of glucose tolerance test [Figure 3c]. Then, the patient was diagnosed with IFP and had gradually complete remission after surgery. After 3 months and 20 months, the follow-up colonic endoscopies showed no recurrence.

This cecal polyp's unique gross and three-layer histological structure makes us to think of colonic mucosubmucosal elongated polyp (CMSEP). Large infiltration of inflammatory cells also requires identification of polyps associated with inflammatory bowel disease-related pseudopolyp, filiform polyposis, etc. However, those diseases have no spindle cells hyperplasia arranged into onionskin-like concentric formation. In addition, CMSEP has no inflammation such as lymphocytes, plasma cells, or eosinophils.[2] Other mesenchymal tumors, such as inflammatory myofibroblastic tumor, gastrointestinal stromal tumor, leiomyoma, and neurofibroma, should be distinguished through their typical morphology and immunophenotype.

In summary, this case reported a cecal IFP with an elongated worm-like appearance. A synonymous point mutation of *PDGFRA* exon 18 has no pathogenic role on the synthesized PDGFRA protein. Nevertheless, the morphology and immunophenotype of this case were strong enough to support

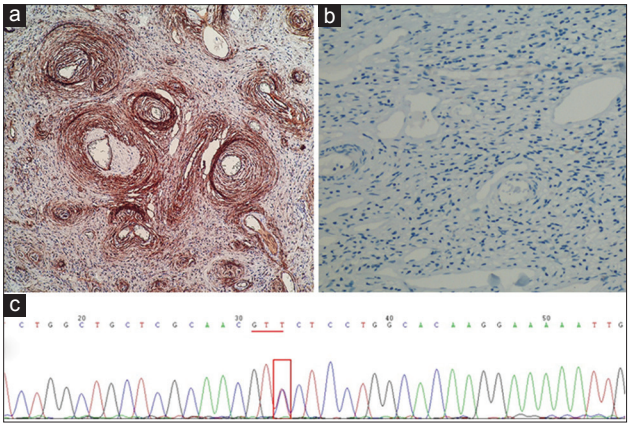

Figure 3: Immunohistochemical and genetic analysis of the inflammatory fibroid polyp in a 65-year-old woman. Immunohistochemical analysis showed that the spindle cells in the submucosal were positive for CD34 (a) and negative for PDGFRA (b, original magnification ×200). Genetic analysis showed V824V synonymous point mutation on exon 18 of *PDGFRA* (c). PDGFRA: Platelet-derived growth factor receptor-alpha.

a diagnosis of IFP. Of note, no *PDGFRA* mutations have been found in a considerable fraction of IFPs.[3]

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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