

Benign fibroblastic polyp of the colon: A case report

Kolonun benign fibroblastik polibi: Olgu sunumu

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There are a fair number of polyps in the gastrointestinal tract, which cannot be classified under a certain category. We report herein a 50-year-old man with a 6-mm sigmoidal polyp; he had been operated previously for rectal carcinoma. The polyp was characterized by benign-appearing spindle cells in the lamina propria leading to a wide separation and disorganization of the colonic crypts, accompanied by focal erosion and restricted areas suspicious for inflammatory fibroid polyp. The histologic features were found consistent with the disease spectrum of "benign fibroblastic polyp of the colon" defined by Eslami-Varzaneh et al. The case is presented with a review of the literature and differential diagnostic considerations.

Key words: Stroma, fibroblastic, colonic polyps

Gastrointestinal kanalda, belirli bir kategori altında sınıflanamayan çok sayıda polip vardır. Daha önce rektum karsinomu nedeniyle opere edilmiş 50 yaşındaki bir erkek hastada izlenen, ve bilinen bir polip kategorisine yerleştirilemeyen 6 mm çaplı sigmoidal bir polip sunulmaktadır. Fokal bir erozyonun eşlik ettiği, bazı alanlarda inflamatuvar fibroid polip kuşkusu uyandıran ve histolojik olarak kriptleri birbirinden ayırarak dizilim bozukluğuna yol açmış, benign görünümlü bir iğsi hücre proliferasyonu ile karakterli olan lezyon, yakın zamanda, Eslami-Varzaneh ve ark. tarafından tanımlanan, "Kolonun benign fibroblastik polibi" hastalık spektrumu içerisinde değerlendirilmiştir. Olgu, ayırıcı tanı kriterleri ve literatür bilgileri eşliğinde tartışılmıştır.

Anahtar kelimeler: Stroma, fibroblastik, kolonik polip

INTRODUCTION

Polypoid lesions of the gastrointestinal (GI) tract are common and divergent. Most of the polyps are epithelial in origin but polypoid mesenchymal proliferations and inflammatory lesions are also encountered. Although most of the polyps, especially those with epithelial features, can be diagnosed accurately, there are some polyps that cannot be classified easily under a certain category. This particularly applies to mesenchymal cell proliferations in most of the cases. Benign fibroblastic polyp of the colon (BFPC) is a distinctive type of mucosal polyp of the colorectum described by Eslami-Varzaneh et al. in 2004 (1). It is composed of benign-appearing spindle cells in the lamina propria leading to a wide separation and disorganization of the colonic crypts. We are aware of 32 cases reported to date under the proposed terminology (2-4). Most of the cases were located in the sigmoid colon (1, 3). Patients are generally asymptomatic or have a history of mild rectal bleeding (2). Almost all lesions were detected on routine screening

colonoscopy but were identified as nonspecific "polyps" (1). They are small lesions measuring 0.2 cm to 1.5 cm (1, 3). They are solitary polyps but accompanied by various lesions, mainly tubular adenoma, hyperplastic polyps or diverticulosis (1-4). BFPC is morphologically and immunohistochemically distinct from other mesenchymal polyps and appears to be relatively rare, constituting about 0.2-1.5% of all colonic polyps according to the previous reports (1, 4). BFPC follows an indolent course. None of the reported cases recurred during a maximum follow-up period of 36 months (mean: 18 months) (2). We present a case interpreted as BFPC and discuss it together with the differential diagnostic considerations.

CASE REPORT

A 50-year-old man, who had been operated two years before for rectal carcinoma and had remained asymptomatic since then, underwent a routine fol-

low-up colonoscopy, which revealed a 6-mm polypoid lesion in the sigmoid colon. The polyp was far from the anastomosing line and nothing extraordinary was found in the rest of the colon. The patient had neither a previous biopsy at the current polypectomy site, nor a history of infection or drug intake. The polyp was extirpated in a subsequent colonoscopy session. On histologic examination, a disorganization was observed in the mucosal architecture at low power. The crypts were separated from each other and a fibroblastic proliferation accompanied by edema was observed in the intervening lamina propria (Figure 1A). A focal erosion was noted in the surface epithelium but apart from those areas no apparent inflammatory cells were present. A very few eosinophil leukocytes, mast cells and plasma cells were noted scattered

elsewhere between the crypts, mainly at the base of this eroded area (Figure 1B). Between this mildly inflamed area and fibroblastic area there was a vague zone where the bundles of spindle cells were more prominent (Figure 1C). The spindle cells in the lamina propria were uniform and bland, the nuclei were oval to fusiform, and nucleoli and the cell borders were indistinct. In deeper parts of the polyp, there were a few cystically dilated glands, the lining epithelium of which was attenuated. Faint concentric arrangements of spindle cells were observed around glands but not around the blood vessels (Figure 1D). The vasculature was also not prominent. The cells showed no significant nuclear pleomorphism or hyperchromasia. No apparent necrosis or mitosis was observed. Immunohistochemical examination applied to rule out possible

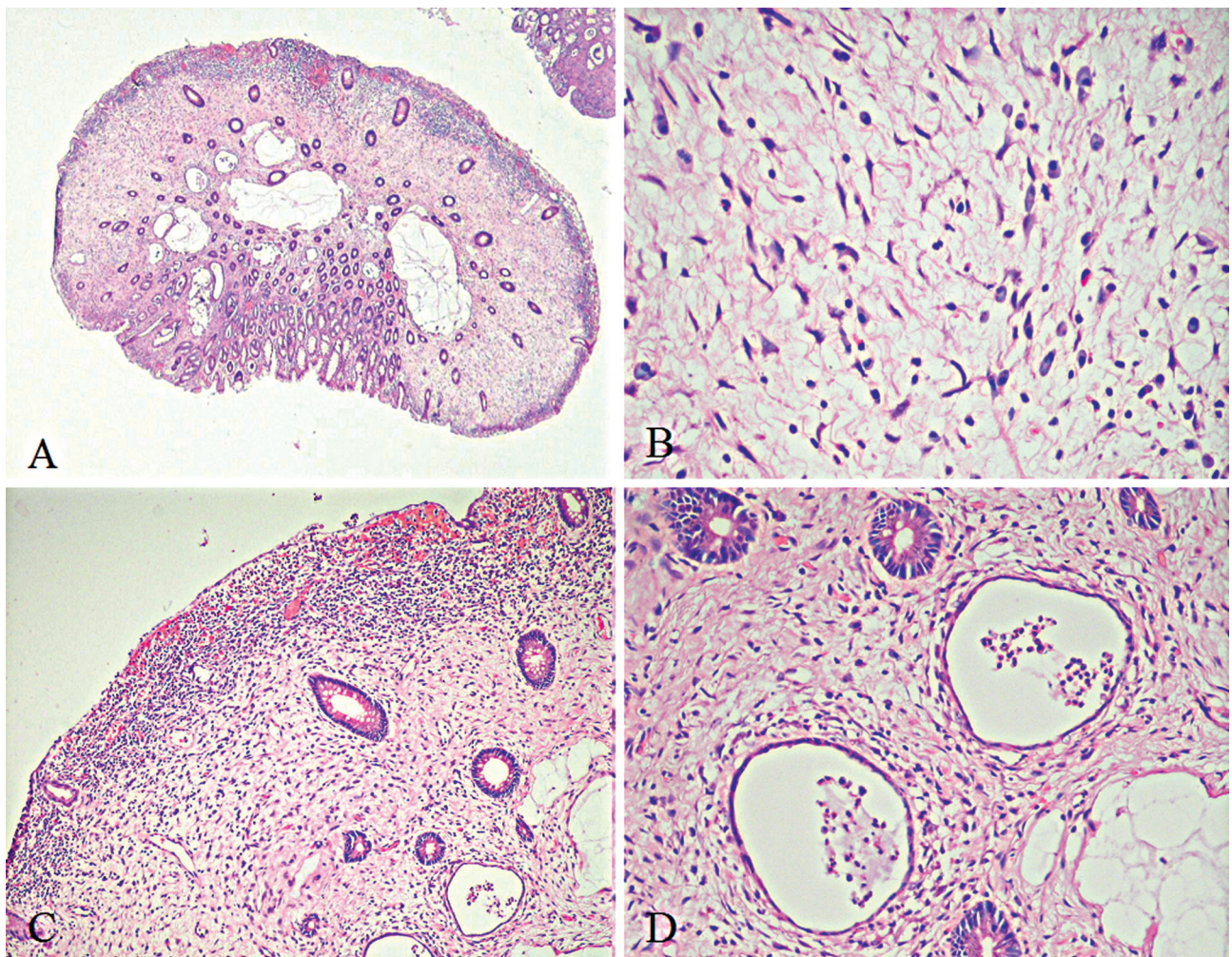


Figure 1. (A) Low power view of the polyp. The crypts were separated from each other and a fibroblastic proliferation accompanied by edema was observed in the intervening lamina propria. Cystically dilated deeper parts of the lesion were noted (hematoxylin and eosin [H&E], x4). (B) Fibroblasts admixed with scattered eosinophils and plasma cells (H&E, x40). (C) The zone observed between the inflamed area and fibroblastic area (H&E, x10). (D) Concentric arrangement of fibroblasts around glands (H&E, x20).

spindled cell proliferations as gastrointestinal stromal tumor (GIST), smooth muscle tumors, neural tumors, or inflammatory fibroid polyps revealed vimentin positivity, but CD117, CD34, S-100, desmin, smooth muscle actin and CD21 were negative. We observed neither admixed hyperplastic changes nor adenomatous polyps in the vicinity. No recurrence was seen in the follow-up interval of 18 months.

DISCUSSION

Benign fibroblastic polyp of the colon (BFPC) is a distinctive type of mucosal polyp of the colorectum. To our knowledge, 32 cases have been reported as benign fibroblastic polyp in the literature. Nineteen of these cases were located in the sigmoid colon, followed by five cases in the rectum, two cases in the rectosigmoid, and two cases in the descending colon. One case was observed in the ascending colon, splenic and hepatic flexures and right colon. Age of the patients ranged from 37 to 84 years (1). There is a reported female predominance (1-3).

In routine practice, GI pathologists have to cope with a considerable amount of "unnamed or not otherwise specified" polyps. Among these, mesenchymal type polyp is rare and usually benign but must be distinguished from GIST. Luckily, immunohistochemical examination is extremely useful in differentiating these lesions. In the presented case, we ruled out a "GIST with very low malignant potential" (5) by absence of immuno-expression for CD117 and CD34. The main differential diagnosis of mesenchymal polyps also includes smooth muscle or peripheral nerve sheath tumor, ganglioneuroma, smooth muscle hamartomas and prolapse-related changes (6). They could have been ruled out based on histology alone, but negativity of S-100, desmin, and smooth muscle actin was also supportive. We suspected the lesion to be a nonspecific response to a nonspecific injury. There was focal erosion in the surface epithelium and a mild inflammation. The lesion itself was slightly edematous, and there were cystically enlarged glands. Thus, regarding the fibroblastic proliferation, the overall picture would have fit a nonspecific tissue response. Reserving this possibility, we can argue against the diagnosis of a simple tissue response. Surface erosion was focal and was not accompanied by a prominent granulation tissue. It was not reported in the first colonoscopy and seems to be the result rather than the cause of the

tumefaction. Furthermore, surface erosion was reported in some of the BFPCs (2) as well as the possibility of being the end result of local inflammation that leads to exuberant scar tissue. In our case, the patient history did not reveal overt GI system inflammation, drug usage or biopsy trauma at the current polyp site. Mucosal prolapse syndromes are also considered in the differential diagnosis although not suspected clinically, but we did not observe longitudinal extensions of smooth muscle emanating from the muscularis mucosae as in prolapse syndromes; however, this feature was also reported in some cases of BFPC (1).

We observed scattered eosinophils and an "onion-skin-like" spindle cell arrangement around glands. Although this pattern was restricted to a few glands, it raised the possibility of an inflammatory fibroid polyp (IFP) (Vanek's tumor) (7). However, perivascular spindle cell arrangement is more common in IFP and eosinophil infiltration is more prominent (8). Furthermore, it is more common in the stomach and very rare in the colon (9). However, the reporters of the case series, including Eslami-Varzaneh, point to some similarities between IFP and BFPC and admit that the lesion may represent an early stage of the disease (1-4). Zamecnik et al. (4) evaluated markers of dendritic cells in four of their cases and found occasional CD34 and consistent fascin reactivity. They suggested that BFPC might be related to an inflammatory fibroid polyp, which is proposed as originating from dendritic cells. The main objection to this hypothesis is the electron microscopic features, which are supportive of fibroblastic differentiation, in lesions so-called BFPC (1). In our case, we interpreted the spindle cells as fibroblasts since they expressed vimentin only and lacked reactivity for markers of specific differentiation including CD21, a marker for dendritic cell differentiation. However, we were unable to perform electron microscopic evaluation. We are aware of the limitations in our case but given the histologic features presented above, we believe that our case is somehow different from the classified "polyps" or "inflammatory conditions", and it may represent a step in the spectrum of BFPC. Although the lesion is reported to be rare, we suspect that it can be more frequent than presumed. These are small and benign-looking polyps in which surveillance can be preferred rather than extirpation. Moreover, there is a possibility for the pathologists to try and fit them under a "known" category or to avoid

naming them and just interpret on histologic appearance.

In conclusion, BFPC is likely to represent a distinct site-specific mesenchymal lesion of the colon.

Further studies and case presentations are needed to reveal its characteristics as well as the actual link between the proposed entity and inflammation and IFP.

REFERENCES

1. Eslami-Varzaneh F, Washington K, Robert ME, et al. Benign fibroblastic polyps of the colon: a histologic, immunohistochemical, and ultrastructural study. *Am J Surg Pathol* 2004; 28: 374-8.
2. Groisman GM, Polak-Charcon S, Appelman HD. Fibroblastic polyp of the colon: clinicopathological analysis of 10 cases with emphasis on its common association with serrated crypts. *Histopathology* 2006; 48: 431-7.
3. Kalof AN, Pritt B, Cooper K, et al. Benign fibroblastic polyp of the colorectum. *J Clin Gastroenterol* 2005; 39: 778-781.
4. Zamecnik M, Chlumska A. Fibroblastic polyp of the colon shares features with Vanek tumor. *Am J Surg Pathol* 2004; 28: 1397-8.
5. Fletcher CD, Berman JJ, Corless C, et al. Diagnosis of gastrointestinal stromal tumors: a consensus approach. *Hum Pathol* 2002; 33: 459-465.
6. Makhoulf HR, Sobin LH. Inflammatory myofibroblastic tumors (inflammatory pseudotumors) of the gastrointestinal tract: how closely are they related to inflammatory fibroid polyps? *Hum Pathol* 2002; 33: 307-15.
7. Vanek J. Gastric submucosal granuloma with eosinophilic infiltration. *Am J Pathol* 1949; 25: 397-412.
8. Fenoglio-Preiser CM, *Gastrointestinal Pathology Plus: An Atlas and Text CD-ROM version*. Hagerstown, Maryland, USA: Lippincott Williams and Wilkins, 1999.
9. Blackshaw AJ, Levison DA. Eosinophilic infiltrates of the gastrointestinal tract. *J Clin Pathol* 1986; 39: 1-7.