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Inflammatory myoglandular colorectal polyps: a series of seven cases and review of literature

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Rezumat

Polipii inflamatori mioglandulari colorectali: o serie de șapte cazuri și revizuirea literaturii

Introducere: Polipul inflamator mioglandular reprezintă un tip de polip non-neoplazic distinct, cu localizarea cea mai frecventă la nivel distal, recto-sigmoidian. Polipul a fost descris pentru prima dată de Nakamura şi colaboratorii săi, şi prezintă câteva aspecte histologice particulare.
Material şi metodă: Prezentăm o serie de şapte cazuri (doi pacienți de sex masculin şi cinci de sex feminin) cu polipi mioglandulari cu localizări de la 15 la 40 cm de orificiul anal. Patru pacienți au prezentat sângerări rectale, ceilalți polipi fiind descoperiți incidental.
Rezultate: Dimensiunile polipilor au variat între 4-30 mm în diametrul maxim. Macroscopic, leziunile au prezentat o consistență fermă şi o suprafață netedă, roşiatică. Examenul histologic al probelor prelevate a evidențiat glande de tip hiperplastic cu dilatații chistice izolate, proliferare neregulată de fibre musculare, o cantitate variabilă de țesut de granulație (de obicei minimă), fără leziuni evidente de displazie epitelială. Toți polipii au fost excizați endoscopic fără prezența de complicații ulterioare.
Concluzii: Polipii inflamatori mioglandulari sunt entități distincte histopatologice, dar cu o patogeneză incertă, care poate include un traumatism local al mucoasei, prolaps mucosal sau leziuni ischemice. Având o patologie benignă acest tip de polip poate fi rezecat endoscopic, tratamentul chirurgical fiind rezervat pentru rare cazuri selectate.

Cuvinte cheie: polip inflamator mioglandular, polip inflamator, polip colorectal, sindrom de prolaps mucosal, polip

Abstract

Introduction: Inflammatory myoglandular polyp is an unusual but distinct, non-neoplastic type of colorectal polyp, commonly with a distal localization at the recto-sigmoidian level. It was first described in 1992 by Nakamura and his colleagues and it is considered to have few particular histological features.
Material and methods: We report a series of seven cases (two male and five female patients) of myoglandular polyps with different localization from 15 to 40 cm from anus. Only four out of seven cases presented with rectal bleeding, the others polyps we incidentally discovered.
Results: The polyps varied between 4 and 30 mm in the maximum diameter. Grossly, they had firm consistency and smooth reddish surface. Histological examination of the specimens revealed hyperplastic glands with occasional cystic dilatation, proliferation of smooth muscle with no regular distribution, a variable amount of granulation tissue (usually minimal) and no evidence of epithelial dysplasia. All the lesions were removed endoscopically without any complications.
Conclusions: Inflammatory myoglandular polyps are distinct histopathological entities, with insufficiently investigated pathogenesis that can include local trauma, mucosal prolapse or ischemia. Being benign they can be removed endoscopically, surgical treatment being reserved in selected cases.

Key words: inflammatory myoglandular polyp, inflammatory polyp, colorectal polyp, mucosal prolapse syndrome, colon

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Introduction

Inflammatory mioglandular polyp (IMGP) is a rare, benign polyp described for the first time by Nakamura in 1992 (1). Since then, a number of 68 cases were reported in the literature. The non-neoplastic lesion has three particular histological features: hyperplastic glands with rare cystic dilatation, granulation tissue and smooth muscle proliferation. Usually, the polyp has a distal localization but there are few cases discovered in descending - ascending colon (2-14), the cecum area (15) and in the terminal ileum (16).

We present a new series of seven patients with IMGP with recto-sigmoidian localization which were removed endoscopically.

Cases presentation

Seven patients were admitted to the Fundeni Clinical Hospital (two male and five female patients) with ages between 36-61 years, specify, four of them with symptoms of rectal bleeding. No patient had past medical history of inflammatory bowel disease.

Endoscopically, four cases presented as pedunculated lesions and three cases were sessile polyps, located 15 to 40 cm from the anus *(Table 1)*. Grossly, the polyps revealed lesions with smooth reddish surface and firm consistency at the biopsy *(Fig. 1)*. In two cases we received biopsy specimens for histological analysis. All the polyps were removed endoscopically with no complications after polypectomy.

The microscopic examination of the H&E stains revealed a mucosa with hyperplastic glands, with occasional cystic dilatations, proliferation of smooth muscle with no regular distribution, a variable amount of granulation tissue (usually minimal), without epithelial dysplasia *(Fig. 2, 3)*.

Discussions

IMPG is a distinct lesion of the recto-colon mucosa with an unclear pathogenesis which can include focal trauma, ischemia and mucosal prolapse.

Table 1. *Macroscopic features and clinical details of seven new cases of IMGPs*

No.	Age/Sex	Symptoms	Site	Size/Type
1.	35/M	Rectal bleeding	30 cm	25 mm/ pedunculated
2	61/F	Rectal bleeding	40 cm	10 mm/ pedunculated
3.	35/F	Rectal bleeding	15 cm	8 mm/ pedunculated
4.	56/F	-	20 cm	10 mm/sessile
5.	46/F	Rectal bleeding	20 cm	30 mm/ pedunculated
6.	56/M	-	40 cm	10 mm/sessile
7	38/F	-	25 cm	4 mm/sessile

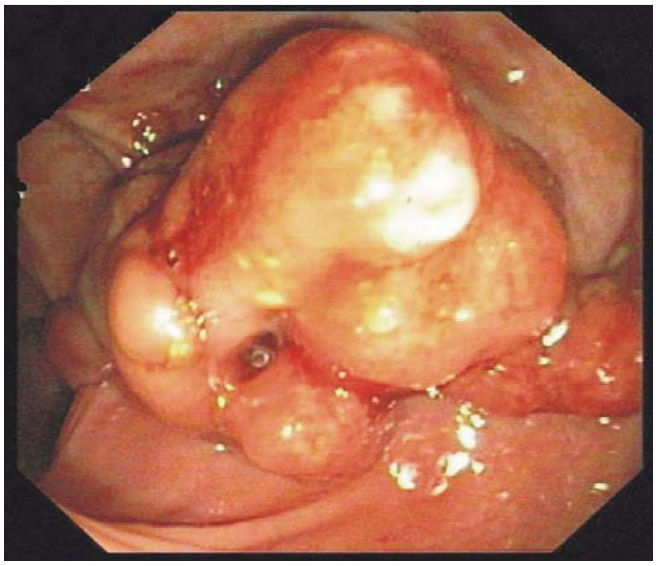

Figure 1. *Endoscopic view of a colonic IMGP with reddish, polilobated surface and focal erosions*

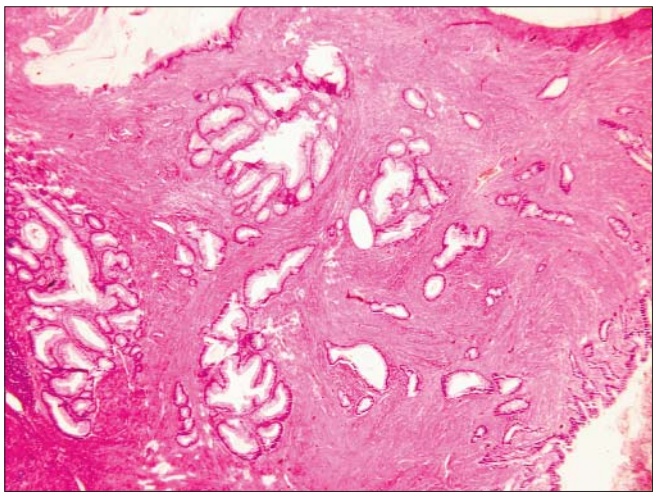

Figure 2. *Colonic polyp with architectural distortion, focal cystic glands and proliferation of muscular fibers in lamina propria, HE stain, x40*

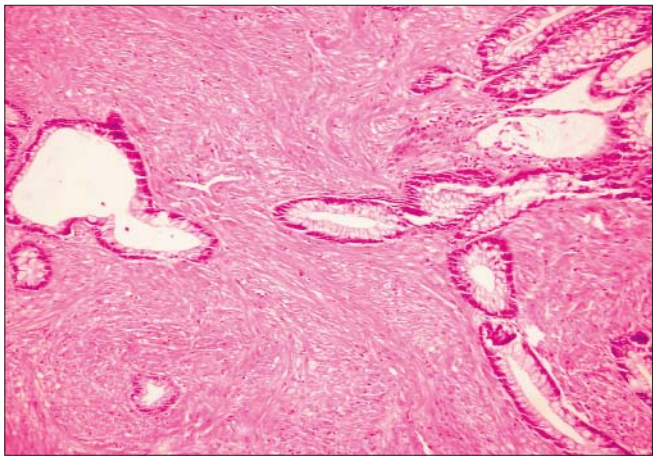

Figure 3. *Detail of muscular proliferation and isolated cystic dilatation of mucosal glands, HE stain, x100*

IMPG can be asymptomatic, incidentally discovered at colonoscopy, but usually is associated with rectal bleeding, as in four of our cases. Also a fecal occult bleeding associated with anemia, constipation or abdominal pain can occur.

Since 1992, when Nakamura described the first IMGP, a number of 68 cases with different localizations were discovered and published in the literature (13, 14, 15). Most of the cases were located in the left colon. Of all 68 cases, a number of 33 (48.5%) were described in the sigmoid, 10 (14.7%) in the rectum, 14 (20.6%) in the transverse colon, 7 (10.3%) in the descending colon, 2 (2.9%) in the ascending colon, 1(1.5%) in the cecum and 1 (1.5%) in the ileum.

Out of 27121 colonoscopies performed in the Clinic of Gastroenterology and Hepatology of the Fundeni Clinical Institute between January 1997 and June 2011, 9515 were for polypectomies/polyp biopsies. Of these 9515 polyps, 7 were myoglandular inflammatory polyps.

The differential diagnosis includes other non-neoplastic polyps *(Table 2)* which could have some common histological features with IMGP: inflammatory polyp, juvenile polyp, polyp secondary to prolapse syndrome, inflammatory "cap" polyp, Peutz-Jeghers polyp and inflammatory fibroid polyp. *(Fig. 4)*

Inflammatory polyps secondary to inflammatory bowel diseases have two histological findings similar with IMGP: irregular cystic dilatation of gland and inflammation but no smooth muscle proliferation in lamina propria.

Table 2. *Differential diagnosis of inflammatory myoglandular polyp*

Polyp	Histological findings
Inflammatory myoglandular polyp	Inflammatory granulation tissue Proliferation of smooth muscle Hyperplastic glands with cystic changes
Inflammatory polyp	No smooth muscle in lamina propria Irregular cystic dilated glands Marked inflammation
Mucosal prolapse syndrome - inflammatory cloacogenic polyp	Obliteration of lamina propria by interglandular fibromuscular proliferation; villiform configuration.
Inflammatory "cap" polyp	No muscular hyperplasia Elongated tortuous glands merge into inflammatory cap of granulation tissue
Inflammatory fibroid polyp	Proliferation of myofibroblasts Infiltration of inflammatory cells (eosinophils)
Juvenile polyp	Prominent cystic dilated glands No muscle fibers in lamina propria No proliferation of muscularis mucosae
Peutz-Jeghers polyp	Prominent arbor smooth muscle bundles Lacks retention cysts Usually no dysplastic features

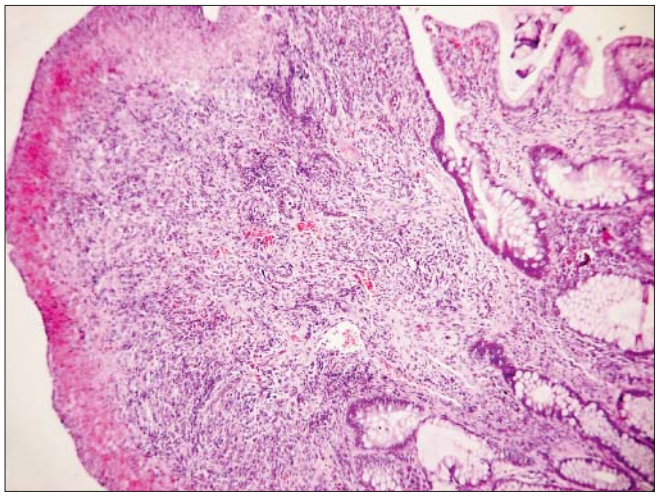

Figure 4. *Inflammatory "cap" polyp – disruption of glandular architecture, superficial granulation tissue, HE stain, x100*

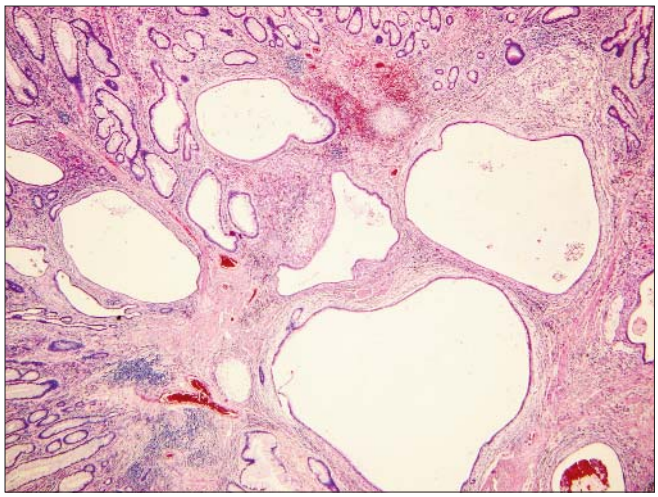

Figure 5. *Juvenil polyp – cystic glands dilatation, acute and chronic inflammation and capillary dilatation in lamina propria, HE stain, x40*

Juvenile polyps present prominent cystic dilated glands but we should not identify any muscle fibers in corion *(Fig. 5)*. It is important to differentiate a juvenile polyp because recent studies showed a recurrence (17) after polypectomy and they could have malignant potential of transformation (18).

Polyps secondary to mucosal prolapse syndrome – inflammatory cloacogenic polyps or polypoid prolapsing mucosal folds - present fibroconnective tissue and muscular proliferation in the lamina propria in different proportions, without branching or arborizing architecture, with no cystic gland dilatations. In polypoid cases a villiform feature can mimic a villous adenoma *(Fig. 6)*. These lesions usually were found in older patients than IMGPs. There was no correlation between diverticular disease and IMGP (19). There are some authors that consider IMGP as a part of the prolapse-induced inflammatory polyps (20, 21). But, as in our old case presentation (8), we agree with others authors who consider IMGP as a distinct entity.

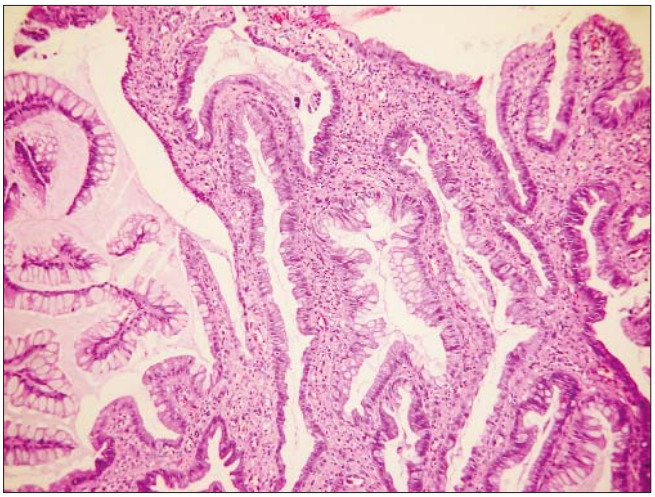

Figure 6. *Cloacogenic polyp – villous configuration, inflammation and no dysplasia, HE stain, x100*

Inflammatory "cap" polyps are usually multiple, covered by a granulation tissue cap *(Fig. 4)* with no muscle hyperplasia and associated with inflammatory bowel diseases or colonic cancer (22). Symptoms include mucous diarrhea and tenesmus.

Peutz-Jeghers polyps are lesions with irregular, nodular surface as endoscopically appearance and consist of branching bundles of smooth muscle fibers covered by normal colonic mucosa on histology examination. They have a low risk of malignancy (23) and usually present with symptoms of obstruction and abdominal pain.

Inflammatory fibroid polyp, frequently occur at gastric (24), small intestinal level and rarely in recto-colon. They are histologically characterized by a proliferation of spindle cells with abundant inflammatory cells, in particular eosinophils (25). A recent study (26) found similar mutation with gastrointestinal stromal tumors and considers them true neoplastic benign lesions.

The diagnosis of IMGPs could often be made by biopsy, as in two of our cases, but sometimes the specimen is superficial and does not intercept muscular proliferation. The examination of the polypectomy specimen can reveal whole histological features and the differential diagnosis will be accurate.

The treatment for IMGPs consists of endoscopic polypectomy because they are clinically and histologically benign lesions with no malignant potential. The exceptions are very large polyps (over 4-5 cm) with sessile appearance and with particular localization which can make difficult the endoscopic excision, with an increased risk of bleeding and perforation (9, 13).

There were no reports of recurrence after endoscopic resection (14), including our cases, with a follow up of few years after polypectomy.

Conclusions

We report a new series of seven inflammatory myoglandular colo-rectal polyps, distinct entities which associate particular histological features.

The gold standard therapy for IMGP is endoscopic resection especially when it is symptomatic, and surgical treatment is reserved only in selected cases.

The IMGPs should be differentiated from other colonic polyps, some of them with neoplastic potential. The pathogenesis is unclear possibly including chronic trauma, ischemia or prolapse syndrome but more studies are required in the future.

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