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Management of leiomyoma of the transverse colon: case report

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Summary. Colonic leiomyoma is a mesenchymal tumor that arises from the muscularis mucosae or *muscularis propria* and is composed of well-differentiated smooth muscle cells with no atypia. It is often incidentally found since its growth affects the submucosal layer and the lesion is covered with normal epithelium. Endoscopic ultrasonography is recommended to define the grade of infiltration of the tumor and eventually lymph node involvement. Histological examination is critical to establish the nature of the tumor and its behaviour. In the case of a voluminous tumor surgical treatment is needed. We report the case of a patient that underwent colonoscopy showing the presence of a neoformation at 70 cm from ileocecal valve occupying half lumen of transverse colon. A surgical resection was performed and histological analysis confirmed the presence of a leiomyoma.

Key words: colonic leiomyoma, mesenchymal tumors, endoscopic ultrasonography

«GESTIONE DEL LEIOMIOMA DEL COLON TRASVERSO: CASO CLINICO»

Riassunto. Il leiomioma è un tumore mesenchimale che ha origine dalla *muscularis mucosae* o dalla *muscularis propria* ed è costituito da cellule muscolari lisce ben differenziate senza nessuna atipia. Viene riscontrato spesso accidentalmente dato che la sua crescita interessa lo strato della sottomucosa ed è coperto da epitelio normale. L'ecoendoscopia viene raccomandata per definire il grado di infiltrazione del tumore e l'eventuale coinvolgimento linfonodale. L'esame istologico risulta cruciale per stabilire la natura del tumore e il suo comportamento. In caso di tumore voluminoso è necessario effettuare un trattamento chirurgico. Riportiamo il caso di un paziente sottoposto a colonscopia che mostrava la presenza di una neoformazione a 70 cm dalla valvola ileocecale, occupante metà lume del colon trasverso. È stata effettuata una resezione chirurgica e l'esame istologico ha confermato la presenza di un leiomioma.

Parole chiave: leiomioma del colon, tumori mesenchimali, ecoendoscopia

Introduction

Leiomyoma is a circumscribed benign tumour composed of intersecting bundles of mature smooth muscle cells. It may originate from either the *muscularis mucosae* or the *muscularis propria* (1). These tumors may affect the entire digestive tract though they are rarely found in the colon where they account

for only 3 % of all gastrointestinal leiomyomas. In particular, the sigmoid colon and transverse colon appear to be the most frequent sites of tumour occurence in the colon (2). They are submucosal tumors covered with normal epithelium so they are usually incidentally discovered. It is difficult to estimate the frequency since the majority of them are small and asymptomatic or mildly symptomatic (3), and endoscopic biopsy is often ineffective as limitated to the mucosa. They sometimes cause symptoms, such as abdominal pain, intestinal obstruction, hemorrhage, perforation (4). The clinical manifestation depends on the location, size and direction of the tumor growth. Gross appearance of these tumors is usually as intramural or intraluminal polypoid lesion, that may be complicated by bleeding, mechanical obstruction or even perforation (3).

The therapeutic strategy of colonic leiomyoma may vary from simple endoscopic resection to a subtotal colectomy. The surgical treatment consists of a simple local excision and is recommended in the case of a voluminous tumor, multiple localizations or if malignancy is suspected: tumour size > 5 cm, presence of mesenteric adenopathy (5).

Case report

A 43-year-old man had been suffering for two years from sporadic rectorrhagia during evacuation, not associated with abdominal symptoms, change in bowel habit or weight loss. He also reported the presence of hemorroids.

Physical examination was essentially normal and did not reveal any visible mass or other abnormalities.

Standard laboratory tests including complete blood cell counts and blood biochemistry were performed showing two-fold increase in serum alanine (AST) and aspartate aminotransferase (ALT) level and slight decrease in serum platelets concentration. Bilirubin levels were slightly high. Tumor markers (CEA and CA 19.9) were within normal range.

The patient underwent colonoscopy, that revealed the presence of a neoformation at 70 cm from ileocecal valve occupying half lumen, with irregolar surface and hard elastic consistence; several biopsies were performed. Second-degree haemorrhoids were found.

A TC-scan was performed, showing an 8 cm solid neoplasm in the splenic flexure, with polilobulated surface and exophitic growth. No alterations in other organs were found, but hepatic steatosis.

The patient underwent surgery. After a xiphopubic incision, the whole abdominal cavity was explored. At the distal third of the transverse colon a 8 cm palpable neoplasm was found, with irregular shape and hard-elastic consistence, covered by intact peritoneum, without involvement of near organs. The incision of omentum was performed by means of harmonic scalpel; the tract of colon including the distal third of the transverse, the descending and the sigmoid was removed (Fig. 1) and a side-to-end anastomosis was performed; the abdominal wall was sutured in layers.

The patient was discharged 7 days after surgery, without any complication.

The histological examination confirmed the presence of a submucosal leiomyoma (Fig. 2).

Discussion

Colonoscopy is an important tool to detect cancer at an ealier stage. Colonoscopic surveillance aims to prevent the development of colorectal cancer before it had a chance to progress to malignancy. It

Figure 1. Resection of the distal third of the transverse (containing a 8 cm neoplasm), the descending and the sigmoid colon

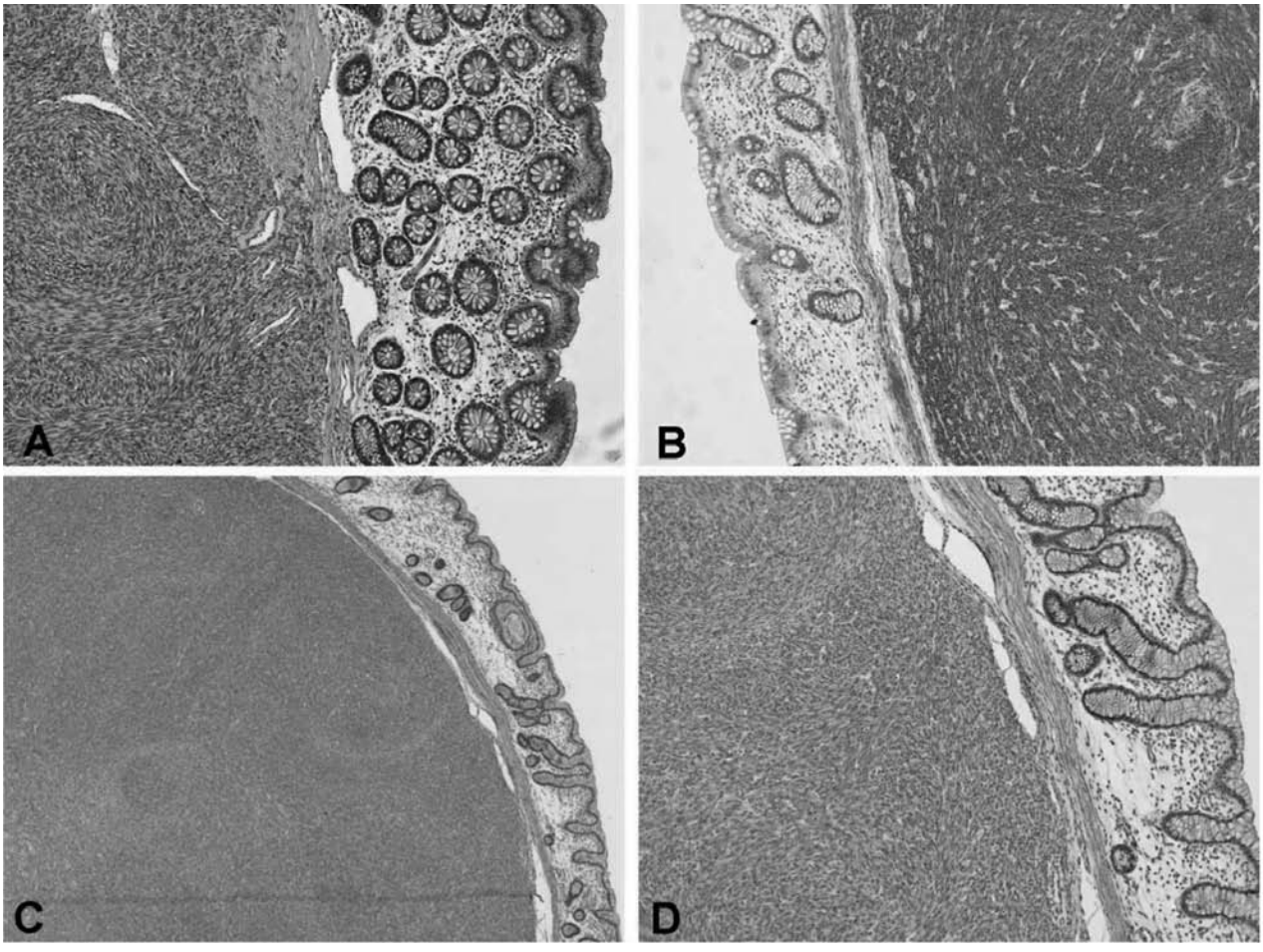

Figure 2. Submucosal leiomyoma of the colon. (A) normal mucosal layer (hematoxylin-eosin 10X). (B) cells uniformly positive for desmin (10X). (C) cells diffusely positive for smooth muscle actin staining (10X). (D) cells diffusely positive for smooth muscle actin staining (20X)

should be suggested to all patients showing a risk of tumour.

Clinicians must address patients to a preventive colonoscopy when they notice suspect signs and symptoms (6).

It is important to differentiate between leiomyoma, leiomyosarcoma and GIST in order to enable adequate diagnosis.

Leiomyoma may be easily distinguished from leiomyosarcoma through histological analysis that focus on a mitotic count, the presence of necrosis and cytological atypias. Taken together these parameters have a high predictive value on the malignancy or benignity of a lesion. A GIST, instead, is characterized by the positivity for c-Kit (CD117), a protein expressed only by this type of tumor within the group of the soft tissue tumours (7-8). Therefore, the negative staining for this antigen and the positivity for smooth muscle actin or desmin allow the identification of a leiomyoma (9). The surgical resection is recommended every time a large tumour (> 2 cm) is present or when the leiomyoma grows beneath the *muscularis propria*. Anyhow the endoscopic ultrasonography is required to gain the image of the layer of origin, the invasive scope and the structure of the lesion. Endoscopic ultrasonography is used to evaluate both depth of tumour infiltration and lymph node involvement in early and advanced stages of the disease (10). The characterization of the nature of the lesion is necessary in order to establish the type of therapeutic strategy.

Conclusion

Leiomyoma is a benign tumor originating from the *muscularis mucosae* or the *muscolaris propria*. It is often accidentally diagnosed, since it may be totally asymptomatic. Since the tumour shows a submucosal growth, a biopsy may be unable to detect it, so the endoscopic ultrasonography is a valid instrument to define the extension in the layers of the bowel, and if surgery is necessary, the lesion will be characterized by histological exam.

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