

Colonic lipomas. Three surgical techniques for three different clinical cases

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SUMMARY: Colonic lipomas. Three surgical techniques for three different clinical cases.

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Colonic lipomas larger than 2 cm in diameter are likely to be symptomatic. In some cases a complication is the first clinical sign. Massive lower intestinal bleeding or obstruction, acute bleeding, prolapse or perforation or, rarely, acute intussusception with intestinal obstruction require urgent surgery. Diagnosis is often made following colonoscopy, which can also have a therapeutic role. Imaging procedures such as CT has a secondary role.

Patients with small asymptomatic colonic lipomas need regular follow up. For larger (diameter > 2 cm) and/or symptomatic lipomas, resection should be considered, although the choice between endoscopic or surgical resection remains controversial. We believe that even lipomas > 2 cm can safely be removed by endoscopic resection. If surgery is indicated, we consider laparoscopy to be the ideal approach in all patients for whom minimally invasive surgery is not contraindicated.

RIASSUNTO: Lipomi del colon. Tre tecniche chirurgiche per tre diversi casi clinici.

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I lipomi del colon di diametro maggiore di 2 cm sono solitamente sintomatici. Una complicanza è in alcuni casi la prima manifestazione della loro presenza. In questi casi, un'importante rettorragia o una occlusione, un sanguinamento acuto, il prolasso o la perforazione o più raramente un'intussuscezione con completa ostruzione del lume intestinale, impongono un intervento chirurgico d'urgenza. I lipomi mostrano particolari caratteri all'esame endoscopico e in molti casi la colonoscopia rimane il primo ed unico esame diagnostico al quale i pazienti con lipomi sintomatici vengono sottoposti, avendo a volte anche un ruolo terapeutico. Le indagini radiologiche, prime fra tutte la TC, hanno un ruolo secondario.

I pazienti con lipomi piccoli e asintomatici necessitano di un regolare follow up. I lipomi di più grandi dimensioni possono diventare sintomatici, per cui la loro resezione deve essere presa in considerazione per quelli maggiori di 2 cm di diametro come per quelli sintomatici. Tuttavia, la decisione se apportare il lipoma e la scelta di tecnica, endoscopica vs chirurgica, rimangono problematiche aperte. In base alla nostra esperienza, riteniamo che si possano rimuovere endoscopicamente anche lipomi di dimensioni superiori ai 2 cm. Qualora ci sia indicazione all'intervento chirurgico, preferiamo adottare la tecnica laparoscopica, a meno che ci siano controindicazioni alla metodica mininvasiva.

KEY WORDS: Colonic lipoma - Laparoscopy - Endoscopy - Minilaparotomy. Lipomi colici - Endoscopia - Laparoscopia - Minilaparotomia.

Introduction

Lipomas of the colon were first described by Bauer in 1757. Although rare, they are the second most common benign colonic tumor, after adenomatous polyps (1, 2). Most lipomas are found incidentally and require no treatment. However, around 25% are symptomatic and must be treated surgically (3), particularly in cases of intussusception, obstruction or acute bleeding (2).

Various techniques have been used, such as enucleation, excision, segmental colonic resection, and colostomy (2, 4). Endoscopic removal of symptomatic lipomas is controversial (4), but is possible, even for large submucosal lipomas.

Case reports

Case 1

A 37-year-old man came to our attention with abdominal pain, constipation, rectal prolapse and chronic intestinal bleeding. Colonoscopy demonstrated a pedunculate submucosal tumor of about 70 mm diameter, obstructing the sigmoid lumen. The overlying mucosa was smooth and ulcerated and the lesion was soft and compressible, with no yellowish color. It was suspected to be a GIST. No biopsies were performed. Although its appearance on CT suggested it was a lipoma, we decided on laparoscopy rather than endoscopic removal because of its size. Intraoperative colonoscopy enabled identification of the site of the tumor for optimal positioning of the trocars. We successfully performed video-assisted partial sigmoid resection with latero-lateral anastomosis. A pelvic drainage was kept until bowel function was restored, six days post-surgery. The patient was discharged the following day. Macroscopic inspection of the resected colon showed a 55 mm smooth, round, polypoid submucosal tumor, which looked fibrofatty. Histology revealed it to be a colonic lipoma.

Case 2

A 75-year-old man with a history of colonic diverticula was admitted to our Department with massive rectal bleeding with anemia. He underwent blood transfusion and then colonoscopy, which revealed uncomplicated diverticula in the right and left colon and a pedunculated tumor in the right colon, next to the ileocecal valve, with signs of recent bleeding. The tumor (about 2.5 cm diameter) showed torsion of the pedicle. The overlying mucosa was smooth and ecchymotic. We placed an endoloop at the base of the tumor and then performed an endoscopic cautery snare resection. There were no postoperative complications. Pathology revealed a 2.7 cm x 2.6 cm x 2.2 cm mass, with yellow cut surfaces. Microscopic evaluation were consistent with lipoma of the ileocecal valve. The postoperative course was unremarkable and the patient was discharged 8 days later in good conditions.

Case 3

A 51-year-old woman with abdominal pain, constipation and rectal prolapse initially refused hospitalization and went back home. A few days later she returned because the rectal prolapse had become necrotic and her abdominal pain and constipation were increasingly intense. She was admitted for urgent surgery. After placing the patient in the lithotomic position, we performed an external resection of the prolapsed mucosa. As the necrotic area extended further, we decided to perform a colonoscopy. This led to the diagnosis of a colocolic intussusception, probably due to a submucosal tumor. As we were unable to resolve the intussusception endoscopically, we decided for laparoscopic surgery. After lysis of adhesions (due to previous hysterectomy) and identification of the intussusception in the sigmoid colon, we performed a minilaparotomy. The site of the tumor was identified precisely by simultaneous colonoscopic guidance. We performed a colotomy along the antimesenteric border and tumor resection with stapler. We closed the colotomy with interrupted absorbable sutures. We concluded the procedure with a ghost ileostomy and placed a drainage tube in the pelvic cavity. Pathological examination showed a yellowish, soft, round, lobulated tumor, 10 cm maximum diameter. Microscopic examination confirmed that it

was a lipoma. There were no postoperative complications. Gastrointestinal function returned to normal on postoperative day 5, at which time the drainage and ileostomy were removed. The patient was discharged 7 days after surgery.

Discussion

Most gastrointestinal lipomas are found in the ascending colon. They are less common in distal tracts of the colon, even if our experience did not reflect this. Colonic lipomas are usually single, small, asymptomatic (3) or mildly symptomatic. They may be incidental findings during endoscopy or surgery for other purposes, requiring no treatment, or during autopsy (4, 5). Clinical signs depend on the size. Lipomas larger than 2 cm are likely to be symptomatic (3, 4). The common signs and symptoms include abnormal bowel habits, abdominal pain and rectal bleeding (1, 4). In some patients, emergency due to complications of colonic lipoma is the first sign. In fact, large lipomas are more likely to cause complications such as massive lower intestinal bleeding, obstruction or, rarely, acute intussusception with complete intestinal obstruction, requiring urgent surgery. The association between intussusception and rectal prolapse is even rarer.

Whatever diagnostic technique is used (colonoscopy, barium enema, CT, MRI) colonic lipomas show some characteristic features which are useful for diagnosis. In most cases, colonoscopy reveals a smooth, spheroidal, slightly yellowish polyp of variable size with or without a pedicle, although the yellowish color is not a constant finding. Three additional signs may aid diagnosis: "cushion sign", "tenting effect" and the "naked fat sign". In any case, biopsy is not usually recommended as the lesion is beneath the normal mucosa.

Colonoscopy is of great importance. It is often the first and only diagnostic test performed on patients with symptomatic lipomas. In selected cases it also has a therapeutic role. Barium enema may help diagnosis by showing a relatively radiolucent mass, with the lipoma generally appearing as an ovoid, well-demarcated filling defect. The typical sign of lipoma on barium enema is the so-called "squeeze-sign". On CT scanning, lipoma has a uniform appearance with fat-equivalent density and smooth border, but for small lipomas, CT has a low diagnostic value (4). In our opinion, barium enema and CT scan are secondary examinations to be used only if endoscopy is not decisive, especially in symptomatic patients and/or in the presence of complications, above all acute colonic obstruction.

Patients with small asymptomatic colonic lipomas only need regular follow up; additional treatments are unnecessary. Resection should be considered for lipomas greater than 2 cm in diameter and/or symptoma-

tic. Immediate surgical intervention is mandatory in cases of acute intestinal occlusion symptoms, intussusception with occlusion, acute bleeding, prolapse or perforation.

Both the decision to remove lipomas and the choice of technique for their removal (endoscopic or surgical approach) remain controversial (1). Various approaches for the treatment of colonic lipomas have been tried, ranging from hemi-colectomy to segmental resection and local excision, depending on the preoperative diagnosis and intraoperative findings. With the advance of colonoscopy, endoscopic cautery snare resection of colonic lipomas has become popular and has proved to be a safe therapeutic method, especially for small lesions. However, several different opinions about the endoscopic removal of large lipomas have been reported. Some studies showed that removal of lipomas ≥ 2 cm in diameter is associated with a greater risk of perforation, while other authors report that large pedunculated and large sessile lesions can be removed without perforation. Endoscopic removal of symptomatic lipomas ≥ 2 cm in diameter is controversial, due to the inefficient conduction of electric current through adipose tissue (4) and because the majority of lipomas are submucosal. This inefficiency

results in an high rate of complications, including perforation or hemorrhage, in comparison with adenomatous polyps (4).

Conclusion

In our opinion, although endoscopic polypectomy of large colonic lipomas is difficult, it is possible in selected cases, especially in pedunculated tumors which allow endoloop ligation around the stalk or in tumors confirmed by US-endoscopy as superficial to the muscle layer. Several operative techniques have been described, including laparotomy, minilaparotomy and minimally invasive techniques for enucleation, colostomy, excision or segmental resection, depending on the preoperative diagnosis and intraoperative findings.

In our experience, simultaneous endoscopic assistance during laparoscopy enables complication-free video-assisted sigmoidal resection and minilaparotomy. For this reason, we believe that laparoscopy or minimally invasive procedures should be considered as an alternative to conventional laparotomy whenever possible, given their lower potential for morbidity and disability.

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