

## Lipoma of the transverse colon covered by tubulovillous adenoma: a rare indication for surgical treatment

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**SUMMARY:** Lipoma of the transverse colon covered by tubulovillous adenoma: a rare indication for surgical treatment.

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*Lipomas of the digestive tract are rare benign tumours which, in most cases, are totally asymptomatic. Because of their localization within the intestinal wall, endoscopy may be completely negative so contrast-enhanced computed tomography (CT) is very important for*

*detecting and typing these lesions. The case of a 49-year-old man with abdominal pain is presented. Colonoscopy and biopsy of a polypoid lesion on the right colonic flexure concluded for tubulovillous adenoma. The subsequent CT showed a polylobate lesion of 5 cm in diameter with predominant fat density causing luminal sub-stenosis. Histological examination of the surgical specimen confirmed the presence of a voluminous submucosal lipoma. CT allows to diagnose lipomas of the large bowel thanks to the density measurement (between -40 and -120 Hounsfield Units) with an accurate detection of the site and nature of lumen stenosis.*

KEY WORDS: Colon - Lipoma - CT - Computed tomography - Surgery.

### Introduction

Lipomas of the gastrointestinal tract represent rare benign tumours being the most common mesenchymal ones (1). The prevalence is higher in women and the incidence peak is between 50 and 60 years (2, 3) with a different frequency distribution among the various intestinal tracts (4-9): ascending colon (45%), sigmoid colon (30.3%), descending colon (15.2%), transverse colon (9.1%).

In about 90% of cases, colon lipomas are located in the submucosa and rarely can be found within the other intestinal wall layers (9, 10). In most cases, colon lipomas are totally asymptomatic; therefore, often they represent occasional findings during instrumental or surgical procedures (11).

However, in about 25% of cases, especially when their maximum diameter is greater than 2 cm, clinical symptoms may be associated (12). The most common symptoms are anaemia, abdominal pain, constipation, intestinal bleeding and intussusception (13).

Because of their localization within the intestinal wall, endoscopy may be completely unrelated; consequently, imaging, especially contrast-enhanced computed tomography (CT), plays a very important role for detecting submucosal lesions but also provides an important contribution for lesion characterization (14).

In fact, among all imaging tools for the abdomen, CT represents the most accurate technique for evaluating both abdominal organs and colonic walls, also in case of bowel obstructions, and provides a guide for interventional procedures in selected cases (15-23).

Definitive diagnosis is only possible by means of the histological examination (24), also because several cases of colonic lipomas, with clinical and endoscopic features easily misdiagnosed with villous ade-

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nomas or carcinomas, are reported in the medical literature (25-27).

The case of a 49-years-old patient with a transverse colon lipoma of about 5 cm in diameter masked by a villous adenoma at endoscopy is reported.

## Case report

A 49-year-old man complaining for a few months of abdominal pain, mainly located in the upper and right quadrants, associated with the presence of semi-formed stools with haematic streaks, presented to our Emergency Department. Routine laboratory tests documented haemoglobin and neoplastic markers within the standard ranges and confirmed occult blood in stools. Further investigations were required. The patient underwent colonoscopy that highlighted the presence of partially ulcerated and easily bleeding polypoid lesion located on the right colonic flexure. Biopsy sampling was performed which concluded for the presence of fragments of tubule-villous adenoma with focal aspects of low grade dysplasia.

The subsequent contrast-enhanced CT of the abdomen and pelvis showed the presence of a polylobate expansive mass within the colonic walls, with a predominant fat density (-100 Hounsfield Units, HU), of about 5 cm in diameter, located in the transverse colon, at about 3.5 cm from the right

colonic flexure, and causing luminal sub-stenosis (Figure 1).

Based on these instrumental investigations, the patient underwent surgical treatment with partial transverse colon resection and entero-entero anastomosis.

The definitive histological examination of the surgical specimen confirmed the presence of a polypoid mass, with regular margins, haemorrhage at the apex level, causing sub-stenosis of the colonic lumen related to the voluminous submucosal lipoma.

## Discussion

Lipomas represent the second most common benign colon tumour after adenoma with a reported incidence of between 0.2 and 4.4% (28).

The first case of colonic lipoma in the medical literature was reported by Bauer in 1757 (29) and from that moment forward, most of the cases described are referred to the ascending colon, close to the cecum. These are usually small lesions, smaller than 2 cm in diameter, almost totally asymptomatic and without any need for treatment (30).

As already mentioned, however, about 25% of cases may be associated with clinical symptoms especially when they have a diameter greater than 2 cm (12) and, in cases where the diameter is larger than 5 cm ("giant lipomas"), there is a great chance of association with an intermittent intestinal occlusion (31).

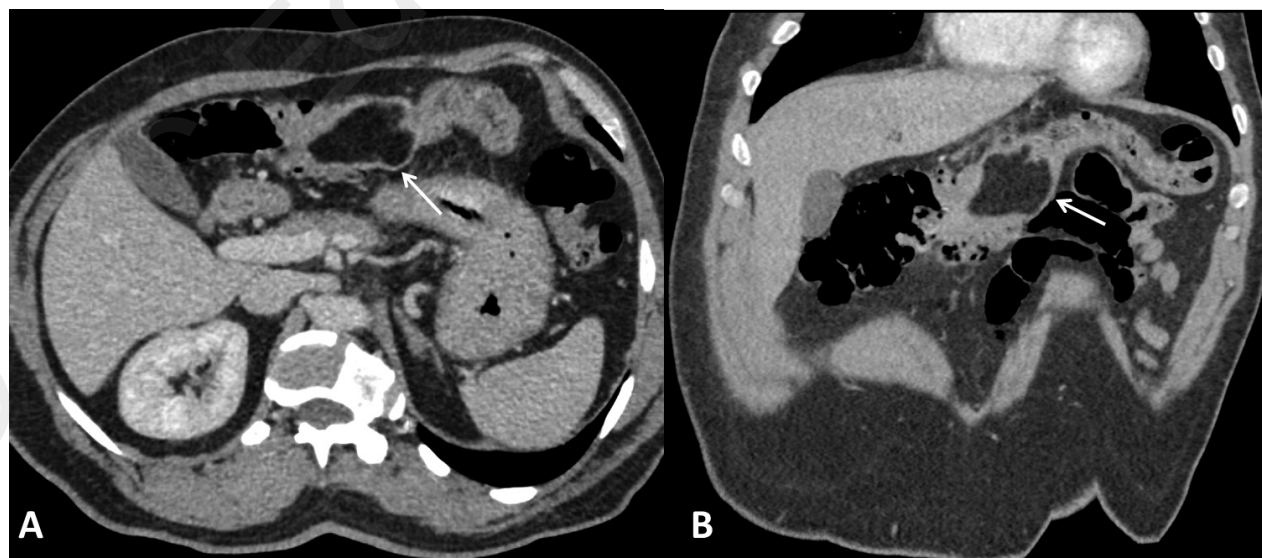


Figure 1 - Transverse (A) and coronal (B) CT scans showing a large submucosal colonic lipoma located within the transverse colon walls, with very low density, mucosal thickening and sub-stenosis of the colonic lumen (arrows).

The transverse colon seems to be the rarest site of colonic lipomas with a reported percentage of about 9% (4-9). A 2011 study collected all cases of transverse lipomas reported in the literature and they were about seventy (32).

Therefore, these lesions are not common and need to be correctly diagnosed.

For the diagnosis it is essential to appropriately use and integrate all the information from the clinic and laboratory-instrumental investigations.

The presented case shows how clinical symptoms of persistent abdominal pain and striated stools required to deepen the diagnosis with blood examinations that did not solve the question but confirmed the need for further investigations with instrumental tools.

Another peculiarity of the presented case is that of the endoscopic examination result and its relative histological sampling. In fact, although lipoma is a wall lesion and therefore not endo-luminal, there are several endoscopic signs that may help in its diagnosis (33). The histological report of the presented case, on the other side, concluded for tubular-villous adenoma. This means that there is a possibility that this kind of masses may present histological features mimicking other lesions (25-27).

In fact, several authors have found and described the presence of alterations in the mucosa covering the lipoma: hyperplasia (34-35), atrophy (36), ulceration (37-39) and necrosis (40). Based on our knowledge, there are only two cases of association between adenomas and lipoma reported in the medical literature and it is not yet clear whether it is a possible correlation or a randomness (26-41).

Only contrast-enhanced CT allowed to diagnosis the lipoma and this is due to the measurement of the lesion density ranging between -40 and -120 HU (mean value, -100 HU).

By integrating all this information and evaluating the case with a multidisciplinary approach, it was decided to treat the patient with transverse colon resection.

The main limitation of this case presentation is the lack of crucial information provided by magnetic resonance imaging (MRI) which could show the adipose lesion composition with high accuracy, due to the possibility of performing fat and background body signal suppression or diffusion imaging, as already demonstrated for other anatomic regions (42, 43).

## Conclusions

Colonic lipomas, especially of the transverse colon, represent a rare condition with a difficult clinical and endoscopic diagnosis and require an appropriate characterization in case of large diameter and bowel lumen sub-stenosis.

Diagnostic imaging with CT plays a crucial role due to its excellent specificity and sensitivity in detecting fat tissue, allowing an accurate diagnosis and planning of the best therapeutic approach for the patient.

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## Conflicts of interest

The Authors declare no conflicts of interest.

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