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Cystic duplication of transverse colon: an unusual case of abdominal pain and bowel obstruction

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SUMMARY: **Cystic duplication of transverse colon: an unusual case of abdominal pain and bowel obstruction.**

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Gatrointestinal duplications are rare congenital anomalies, usually detected prenatally or in the first two years of life, although they can be diagnosed even in older age.

Within the abdomen, a small bowel location is the most frequent (more than 50% of cases), while colonic site accounts for 17% of patients; transverse colonic location is very rare. These lesions can vary in shape, being cystic or tubular, and tipically show the same structure of the adjacent normal bowel, with which they can have direct communication.

The most of case of intestinal duplication in adults present with acute abdomen and bowel obstruction, and are more common in the ileum than in the colon. When diagnosed these lesions should be surgically resected to avoid future possible complications

The Authors present a case of cystic duplication of transverse colon in a young adult male, cause of acute abdominal pain and intestinal obstruction, thus requiring urgent surgery.

RIASSUNTO: **Duplicazione cistica del colon trasverso: un caso insolito di dolore addominale e occlusione intestinale.**

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Le duplicazioni del tratto gastrointestinale sono rare anomalie congenite, di solito identificate prima della nascita o nei primi due anni di vita, sebbene possano essere osservate anche in età successive. Nel contesto della cavità addominale, la localizzazione al piccolo intestino è la più frequente (più del 50% dei casi), mentre la localizzazione colica si verifica nel 17% circa dei casi; la localizzazione nel colon trasverso è comunque molto rara. Queste lesioni possono assumere diverse forme, cistiche o tubulari, e tipicamente hanno la stessa struttura del viscere adiacente, con il quale possono avere comunicazione diretta. La maggioranza dei casi di duplicazione cistica dell'adulto si presentano con segni di addome acuto e occlusione intestinale.

Quando diagnosticate, queste lesioni necessitano di trattamento chirurgico, per evitare possibili complicanze.

Gli Autori presentano un caso di duplicazione cistica del colon trasverso in un giovane adulto, con un quadro clinico di dolore addominale e occlusione intestinale che ha richiesto un trattamento chirurgico di urgenza.

KEY WORDS: Intestinal duplication - Giant true duverticula - Cystic duplication.
Duplicazione intestinale - Diverticolo gigante - Duplicazione cistica.

Introduction

Gastrointestinal tract duplications are rare congenital anomalies of the alimentary tract, which may occur at any level of the bowel (1). They can widely vary in size and shape, being either tubular or spherical, and may communicate with the intestinal lumen (2).

After the first description by R. Fitz (3), the term duplication has been used to describe all congenital cystic anomalies of gastrointestinal tract (enterogeneous cyst, ileum duplex, giant diverticula, unusual Meckel's diverticulum) (4).

Etiology is of embryonic origin and several theories have been proposed; however none of these alone is able to explain the full diversity of these lesions

The most of cases of intestinal duplication present in childhood with acute abdomen or bowel obstruction, and are more common in the ileum than in the colon (5).

When diagnosed these lesions should be surgically resected to avoid possible complications (6).

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The Authors present a case of cystic duplication of transverse colon in a young adult male, cause of acute abdominal pain and intestinal obstruction, thus requiring urgent surgery.

Case report

A 27-year-old man was admitted to our Department in an emergency setting due to acute and diffuse abdominal pain associated with bowel obstruction and a palpable mass located in mesogastrium. He had no risk factor, such as diabetes, hypertension, hyperlipidemia.

Laboratory findings showed no alterations in WBC and RBC counts, and no electrolitic imbalance. Ultrasonography and CT scan showed a cystic lesion of about 65 mm in diameter, located between the duodenum and gallbladder, close to transverse colon, having liquid and mucinous-like content.

Because of the persistence of pain and constipation, the patient underwent urgent surgery. At laparotomy a cystic mass, measuring about 6 cm was found in the context of transverse mesocolon, displacing (not infiltrating) middle colic vein and artery and having direct connection to transverse colon by a thin duct measuring about 2.5 cm in length (Fig. 1). This mass wass completely excised together with its duct and a little segment of the anterior colonic wall, that was closed with 3-0 absorbable suture.

The specimen macroscopic examination revealed the presence of a complete colonic wall (Fig. 2) with a patent duct connected to the colon, having mucinous-enteric content.

Postoperative course was uneventful and the patient was discharged at 8th p.o. day.

Histology confirmed the presence of a complete colonic wall, without structural abnormalities: therefore diagnosis of cystic duplication was made.

After one-year follow up the patient is doing well, with no signs of gastrointestinal function alteration.

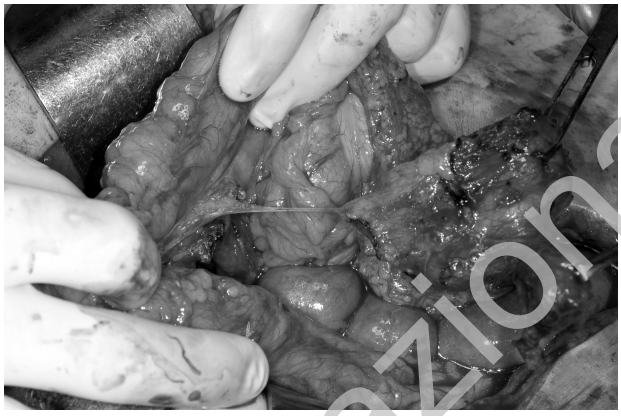

Fig. 1 - Intraoperative view of the cystic duplication connected to transverse colon by a thin, patent duct.

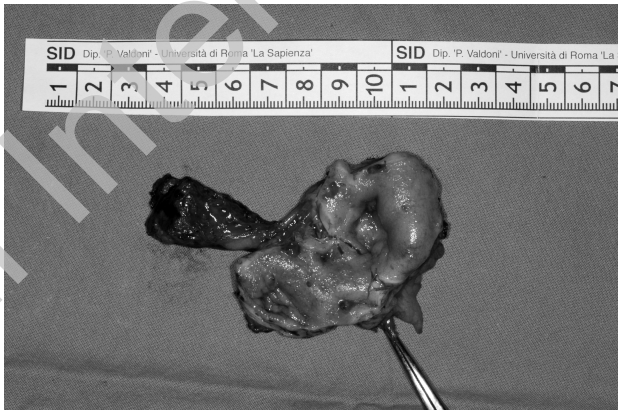

Fig. 2 - The opened specimen shows a normal colonic mucosa.

Discussion

Gastrointestinal duplications are rare congenital anomalies, usually detected prenatally or in the first two years of life, although they can be diagnosed even in older age (4, 7).

Within the abdomen, a small bowel location is the most frequent (more than 50% of cases), while colonic site accounts for 17% of patients; transverse colonic location is very rare (8). These lesions can vary in shape, being cystic or tubular (2, 9), and tipically show the same structure of the adjacent normal bowel, with which they can have direct communication

The most common clinical manifestations are abdominal pain and intestinal obstruction due to volvolus or direct bowel compression, as in the case reported. Rarely, such duplications may present with signs of acute abdomen due to perforation, or acute bleeding (10).

A differential diagnosis should be made when these lesions present as abdominal cystic or complex masses of undetermined origin. In such cases, US and CT scans (in adults) can help to distinguish gastrointestinal duplications from other kinds of abdominal masses, even if, especially in adult patients, diagnosis is often made only during surgery. Barium enema or endoscopy are usually performed if there is suspicion of duplication, and, in case of communicating duplication, can lead to the correct diagnosis (2, 5).

Colorectal duplications tipically show a double muscular layer and epithelium similar to the rest of the colon. Risk of primary malignancy has been described, but it seems to be very rare (1, 2).

Most Authors recommend complete resection once duplication has been identified; this in order to avoid further complications, or to correct these complications. Sometimes resection of normal intestine must accompany removal of the duplication because of the intimate attachment of the common wall, or because isolated resection would compromise blood flow to the adjacent bowel (2, 11). However cystic duplications are general-

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ly easily removed from their attachments to the surrounding tissues.

In our case the duplication cyst was located in the context of transverse mesocolon, between the branches of middle colic vessels, and had communication with the lumen of transverse colon by a thin, but patent duct. Surgical excision did not involve section of colonic vessel, therefore colon resection was not necessary. The cyst was removed together with its duct until the true colonic wall, with a little colonic wall resection followed by hand-sewn suture.

Conclusions

Colonic cystic duplications are rare congenital anomalies, usually diagnosed and treated prenatally or in the first years of life. They can be diagnosed even in adults, usually due to complications such as bowel obstruction or bleeding, and always require surgical excision, to treat complications or to prevent further ones.

Surgical excision can involve the adjacent bowel when duplications are adherent to intestinal wall or their excision compromises blood flow to the bowel.

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