CASE REPORT

Giant colon polyp in a child with suspected inflammatory bowel disease: US findings

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Abstract A 6-year-old boy with a history of diarrhea and rectal bleeding was referred to our department where he underwent ultrasound (US) examination for suspected inflammatory bowel disease. US showed the presence of an echoic oval mass measuring about 30×24 mm located at the transition between the transverse and descending colon. It moved with the peristaltic waves and was attached to the intestinal wall through a pedicle. Color Doppler showed intralesional blood flow. On the basis of these findings, the patient was suspected of having a colon polyp. This diagnosis was confirmed at subsequent colonoscopy. The mass was removed using a diathermy snare, and histologic examination revealed hamartomatous polyp measuring 32 mm.

Keywords Polyp · Rectal bleeding · Child · Ultrasound

Riassunto Un bambino maschio di 6 anni con storia di diarrea e sanguinamento rettale, veniva sottoposto presso la nostra struttura ad un esame ecografico nel sospetto di una

malattia infiammatoria intestinale. Tale esame evidenziava la presenza di una formazione ovalare ecogena a livello del colon trasverso/discendente di circa 30×24 mm, mobile con i movimenti peristaltici e provvista di peduncolo; il color Doppler evidenziava segnale vascolare interno. Venne posto il sospetto di polipo intestinale, che fu confermato alla successiva colonoscopia. All'esame istologico, eseguito dopo rimozione con ansa diatermica, risultava essere un polipo amartomatoso di 32 mm.

Introduction

Colorectal polyps are common in children. The typical clinical characteristics are bright red rectal bleeding, but normal stool pattern [1]. In cases where clinical and instrumental investigation leads to suspicion of a polyp, colonoscopy is considered the gold standard for diagnostic confirmation and possible treatment. This case report presents the ultrasound (US) features of a typical juvenile bowel polyp.

Description of the case

A 6-year-old boy with a history of diarrhea and rectal bleeding for several months was referred to our department for further investigation including abdominal US examination due to clinical suspicion of chronic inflammatory bowel disease.

US examination using GE Logiq 9 equipment (General Electric, USA) and a convex 2–5 MHz probe integrated with a linear 7–12 MHz probe evidenced the presence of an oval mass, arising from the intestinal wall at the

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Fig. 1 Axial scan shows an inhomogeneous oval mass with intraluminal cyst-like areas

Fig. 2 Longitudinal scan shows blood flow in the polyp and the presence of a peduncle (white arrow)

transition between the transverse and descending colon. The mass measured 30×24 mm, had well-defined margins and moved with the peristaltic waves. The lesion was inhomogeneously echoic with multiple cyst-like areas within it, and a pedicle was visible. Color and power Doppler showed intraluminal vascular signals (Figs. 1, 2). On the basis of these findings the patient was suspected of having a bowel polyp.

The patient underwent colonoscopy which showed the presence of a large pedunculated polyp of the transverse colon, 30 cm from the anal margin. The polyp was removed using a diathermy snare (Figs. 3, 4). Histological examination confirmed pedunculated hamartomatous polyp about 32 mm with a peduncle 15 mm long.

Fig. 3 The polyp as revealed by colonoscopy

Fig. 4 Macroscopic specimen removed under endoscopic visualization

Discussion

Solitary polyps of the colon are relatively common in children; they usually manifest as painless rectal bleeding, sometimes associated with diarrhea and abdominal pain [1]. These lesions, referred to as juvenile polyps, are benign and carry no increased risk of malignant transformation. Their diameter usually ranges from 1 to 2 cm and in rare cases 2 to 4 cm [2].

It is important to distinguish between solitary juvenile polyps and the various types of juvenile polyposis, which carry a risk of malignancy. The diagnostic criteria for juvenile polyposis are controversial, but many authors refer to the criteria proposed by Giardiello et al. [3]. They state

that juvenile polyposis is defined by three or more juvenile polyps of the colon, polyposis involving the other segments of the gastrointestinal tract and a family history positive for juvenile polyps. Patients with solitary juvenile polyps in childhood are not included in this classification [4].

At US imaging, a juvenile polyp appears as a rounded hypoechoic nodule located within the colon lumen and with a peripheral hyperechoic layer containing small cysts and a peduncle attaching it to the intestinal wall. Color Doppler shows arterial and venous blood flow within the polyp and peduncle [5, 6]. These US findings are fairly typical and allow differentiation between juvenile polyps and normal intestinal loops containing stools and inflammatory pseudopolyps. Intestinal loops containing stools usually appear hyperechoic, whereas the intestinal walls appear hypoechoic [7] and there is no internal flow signal at color Doppler. Inflammatory pseudopolyps are more echoic, there is no vascularization within the pedicle and they are located in areas with intestinal wall thickening [6].

Juvenile polyps are hamartomatous polyps caused by an abnormal growth of the intestinal lining with cystic dilations surrounded by non-dysplastic epithelium [3].

US has an important role in the detection of intestinal polyps and confirmation of clinical suspicion of this disease in young patients; however, it should be kept in mind that endoscopic evaluation of the colon and polypectomy is nearly always required.

Conflict of interest Valerio Vitale, Marco Di Serafino, Carmela Mercogliano, Gianfranco Vallone declare that they have no conflict of interest.

Informed consent All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000. The patient's parents provided written informed consent to the publication of this paper and to the inclusion in this article of images and information that could potentially lead to his identification.

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