Accessory spleen as lead point in intussusception

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A 15-year-old boy, who had an episode of abdominal colic 4 years earlier, presented now with a week-long episode of abdominal pain. A computed tomographic scan confirmed the presence of an intussusception. Surprisingly, the surgery identified an accessory spleen as the lead point. At 9 months follow-up, the young boy has had no further abdominal discomfort. This report adds accessory spleen to the list of very rare pathological lead points in intussusception. ***Ann Pediatr Surg*** **10:136–138 © 2014 Annals of Pediatric Surgery.**

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Introduction

Accessory spleens or splenunculi represent splenic tissue detached from the normal position of the spleen anterior to the stomach and posterior to the tail of the pancreas and the left kidney. Approximately, 10% of individuals have an accessory spleen mainly near the hilum of the native spleen or the tail of the pancreas [1,2]. It is extremely rare to find an accessory spleen in the mesentery of greater omentum [1,2]. The following illustrates a case of mesenteric accessory spleen provoking an ileocolic intussusception.

Case description

A 15-year-old boy presented with a 1-week history of abdominal pain/abdominal cramps. He was hospitalized 4 years earlier with abdominal colic, which resolved spontaneously within 3 days. During his most recent week-long bout of abdominal pain, which culminated in bilious vomiting and severe abdominal cramps, he underwent an ultrasound scan, which showed features suggestive of an ileocolic intussusception.

He was transferred to our institution for further evaluation; on arrival, he was haemodynamically stable and his abdominal cramps had improved considerably. A computed tomographic scan endorsed the sonographic suspicion of an ileocolic intussusception with a round-shaped lesion located at the head of intussusceptum close to the hepatic flexure (Figs 1 and 2).

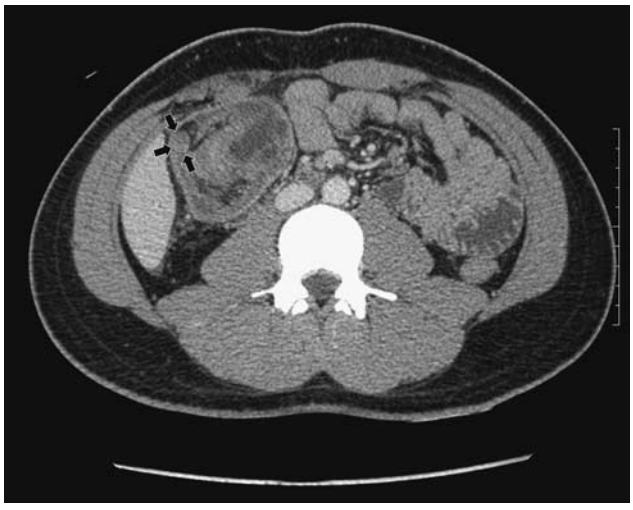
Diagnostic laparoscopy confirmed the diagnosis. At the time of surgery, only a short segment of terminal ileum (~10 cm) was still intussuscepted into the ascending colon and was easily reduced. After the reduction, a reddish nodule with its vascular pedicle attached to the mesentery was noted near the ileocaecal valve. The lesion measuring 1.5 cm in diameter appeared congested (Fig. 3). The appendix as a possible lead point for intussusception appeared normal and there was no evidence for lymphoma [3,4]. In view of the uncertain pathology, the laparoscopy wound was extended to a small lower midline laparotomy allowing palpation of the caecum and ascending colon to exclude common intraluminal lead points of intussusception (e.g. polyp or duplication cyst) [4]. The accessory spleen adjacent to the ileocaecal valve was the only remaining lead point for the intussusception (Fig. 3). It was resected at the base of its vascular pedicle on the mesentery. Histology confirmed the presence of an accessory spleen with congested vessels (Fig. 4). After an unremarkable postoperative recovery, the patient was discharged 2 days later. At 9 months follow-up, he is well and has not experienced any further abdominal colics.

Discussion

The splenic primordium is first seen during the fifth week of gestation with the arrival of a bulge of mesenchyme between the stomach and the pancreas in the dorsal mesogastrium [5]. Accessory spleens are considered the result of nonfused splenic buds.

Large postmortem studies albeit undertaken on male army veterans identified one or more accessory spleen in 602 of 5700 necropsies (10.5%) [1,2]. Multiple accessory spleens are seen in 83 of 602 (14%) with two accessory

Fig. 1



Computed tomographic scan image (axial view) showing the intussusceptum (arrows).

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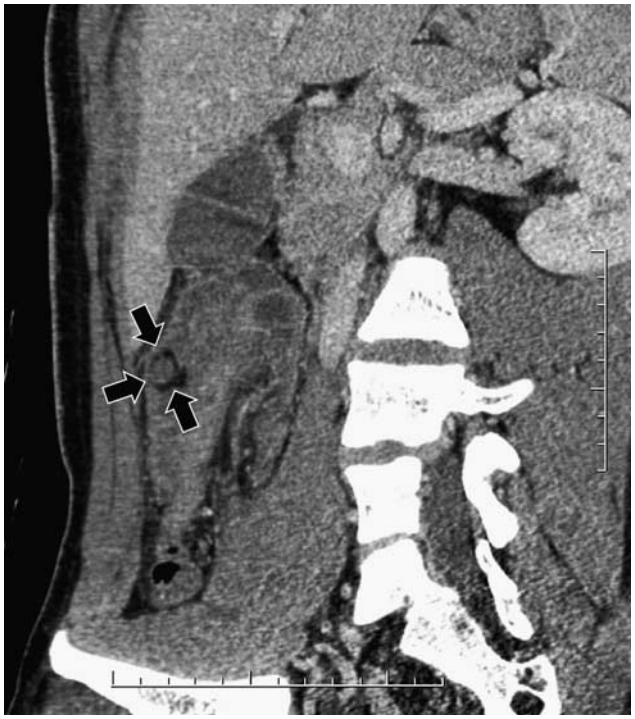
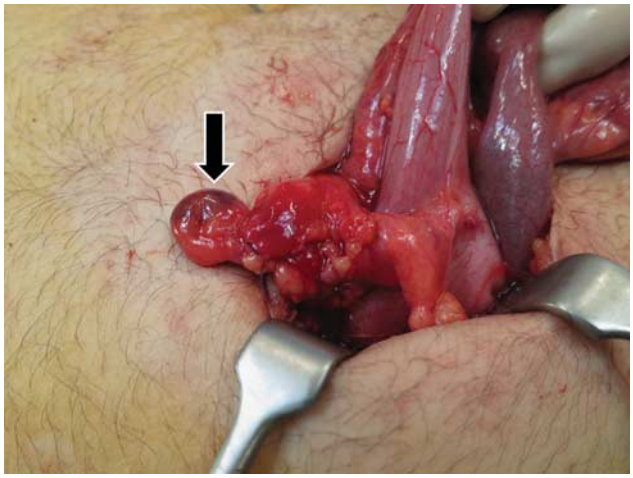
Fig. 2



Computed tomographic scan image (oblique sagittal view along the axis of the ileum) showing the intussusceptum (arrows).

Fig. 3

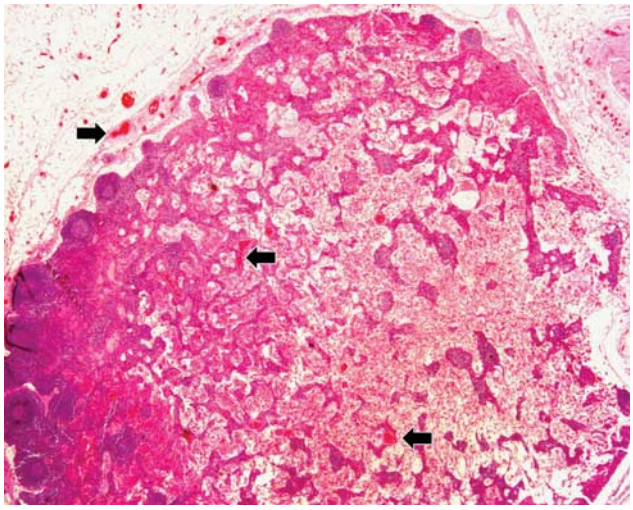


Intraoperative image of accessory spleen (arrow) in close proximity to the ileocaecal valve.

spleens by far the most frequent in 65 of 83 (78%) cases [1,2].

Considering the intra-abdominal distribution of the total number of 710 accessory spleens identified in the two aforementioned studies, the vast majority – 506 of 710 representing 71% – is situated at or near the hilum of the native spleen, followed by accessory spleens in or near the tail of the pancreas in 141 of 710 (20%) [1,2]. Other locations for accessory spleens are the gastrocolic ligament or the transverse mesocolon but only in 3 and

Fig. 4



Microscopic image of the accessory spleen demonstrating congested vessels within the red pulp and on the surface (arrows) (H&E, $\times 10$ magnification).

2.5%, respectively [1,2]. Finding an accessory spleen in the greater omentum or mesentery, as in the presented case, is exceedingly rare.

In view of the overall prevalence of $\sim$10%, it appears that the overwhelming majority of accessory spleens remain quiescent. However, given a long enough vascular pedicle, accessory spleens can twist and undergo ischaemic necrosis. Ishibashi *et al.* [6] recently summarized the 16 reported cases of accessory spleen torsion in children. According to this article, the greater omentum is in nearly 50% the origin of the accessory spleen's vascular pedicle [6].

Occasionally, an accessory spleen may mimic a malignant tumour, if the accessory spleen is integrated in an organ or located nearby the organ – for example, tail of the pancreas tumours [7]. Other researchers have reported accessory spleens as a gastric submucosal tumour, a suprarenal tumour or a scrotal mass mimicking respective malignancies in these locations [8–10].

We could identify one case report of a large splenosis, which infiltrated the stomach and splenic flexure of the colon [11]. This autotransplantation of splenic tissue had developed after an elective splenectomy for thalassaemia 10 years earlier; the splenosis presented as a mass with features of a colonic intussusception [11].

The most common pathological lead points are Meckel's diverticulum, (hamartomatous or juvenile) polyp, appendix vermiformis and intestinal (ileum or caecum) duplications [3,4]. Much rarer lead points range from foreign bodies (e.g. worms) to leukaemic infiltrates and granulomas (e.g. Crohn's disease) [4,12]. The accessory spleen was deduced from more common pathological lead points by exclusion, the similarity of the computed tomography appearance of the intussusceptum (Figs 1 and 2) with the intraoperative findings (Fig. 3) and finally the vascular congestion of the lobulated nodule (Fig. 4).

Our case adds to this list of rare pathological lead points; it is insofar unique as it presents the first description of an accessory spleen causing the lead point for an intussusception.

Conclusion

We describe a 15-year-old boy with a previous history of a possibly self-limiting intussusception presenting with an ileocolic intussusception provoked by an accessory spleen in close proximity to the ileocaecal valve. Our report adds accessory spleen to the list of (exceedingly) rare lead points in intussusceptions.

Acknowledgements

Conflicts of interest

There are no conflicts of interest.

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