Meckel's diverticulum at uncommon mesenteric location

Sir,

Meckel's diverticulum (MD) is the most common congenital anomaly of the gastrointestinal tract seen in children affecting 2% of general population. It is most commonly located at antimesenteric border 30cm proximal to Ileocecal junction. Very few case reports are available in the English literature suggesting the rarity of the mesenteric location of MD.[1]

Between January 1994 and December 2012, 33 cases of MD were operated, in that 20 were male and 13 were female. In 3 cases, MD was located at mesenteric border of small intestine. Patient characteristics in those three cases were shown in Table 1. Case no.1 and 3 were explored by infraumbilical incision, but case no. 2 who presented with bleeding per rectum was explored by right upper transverse incision. Since, MD was located at the base of the mesentery, resection and anastomosis was preferred instead of a wedge resection in all the three cases. Post-operative course was uneventful.

The first description of a mesenteric-sided MD was reported in 1941 by Chaffin[2] and afterward very few cases have been reported in the surgical literature, without being documented on pre-operative imaging.[1] Inparticular, Sarioglu-Buke *et al.*,[1] offered the possible embryological explanation that the etiology of the anomaly was due to the persistence of a short vitelline artery that creates a mesodiverticular band from the mesentery to the tip of the diverticulum, which diverts the diverticulum away from the antimesenteric border during the elongation and growing process.

In diagnosis, the most precise test in childhood is technetium-99 mpertechnetate scan (Meckel scan). The pre-requisite for the detection of an MD by Meckel scan is the presence of ectopic gastric mucosa. About 50% of MD contain ectopic mucosa, with gastric mucosa being most common.[3]

The only differential diagnosis of MD in mesenteric location is ileal duplication cyst. The most distinguished difference between a MD in the mesenteric location and ileal duplication is the fact that the former is a remnant to the omphalo mesenteric canal.[1] In general, ileal duplications share the wall and the blood supply of the ileum and the MD has its own artery. Several authors[4,5] suggest removal of all asymptomatic MD because of high-risk of complications and the low-risk associated with resection. Others advocate resection only in selected cases such as the presence of ectopic gastric mucosa or forming adhesive bands. The mesenteric location of MD may erode mesentery and rupture in to the mesenteric vasculature during the inflammatory process.[1] Therefore, the surgical decision should be standard resection even if this lesion is incidentally detected during laparotomy.[1]

In our series of three cases, resection and end-to-end anastomosis was carried out in all cases with uneventful post-operative recovery. MD at mesenteric location is a distinct variant with straight forward surgical management irrespective of symptoms and presentations.

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Table 1: Patient characteristics

Case number	Age (year)	Presenting symptom, duration	Clinical examination	Pre-operative investigation	Associated band	Length/width of diverticulum	Histopathology: Ectopic gastric mucosa
1	2	Serous discharge from umbilicus, since birth	Local inflammation at umbilicus P/A-normal	Abdominal ultrasound-normal	None	1.5/1cm, 40 cm from ICJ	Absent
2	3	Painless episodic rectal bleeding, 6 months	Mild pallor, P/A and P/R- normal	Abdominal ultrasound– normal, Meckel scan-positive	None	2/1.5 cm, 30 cm from ICJ	Present
3	2	Episodic pain in umbilical region, 2 months	P/A and P/R-normal	Abdominal ultrasound-blind fibrous band, Meckel scan-positive	Blind fibrous band	1.5/1 cm, 30 cm from ICJ	Present

P/A: Per abdominal, P/R: Per rectal, ICJ: Ileocecal junction

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