



Presence of a simple lateral extramural diverticulum at the junction of second and third parts of the duodenum — a case report

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Abstract

Extramural duodenal diverticulum along the convex margin of the duodenum is a rare entity. Though its exact etiology is not clear, diverticulum of duodenum usually occurs at weak spots in duodenal walls near the major and minor duodenal papillae. Here we present a case, where we found an unusual diverticulum at the junction of the second and third parts of the duodenum. This was unique as it was very prominent with about 3 cm diameter and was along the lateral convex margin. Gastroenterologist and surgeons who deal with gastrointestinal obstructions or infections should be alert about this particular variation.

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Key words [duodenum] [diverticulum] [pot shaped] [valveless] [lumen]

Introduction

Though the exact etiology is not clear, the prevalence of duodenal diverticula increases with age and is found in less than 5% of post-mortem examinations [1]. Progressive weakening of the intestinal smooth muscles and increase in intraduodenal pressure is said to be the reason for this out pouching of the duodenum [2]. Most (70-75%) of duodenal diverticula occur in the periampullary region, within 2-3 cm radius of the ampulla of Vater [3]. Concave medial border of the duodenum is the common site for diverticula [2]. Because of its proximity to the head of the pancreas, fluid filled duodenal diverticula can be misinterpreted as pancreatic pseudocysts [2, 3].

Case Report

During the routine dissections for the medical undergraduates, a 'pot shaped' diverticulum was seen to arise from the lateral border, at the junction of the second and third parts of the duodenum in an approximately 55-year-old male cadaver (Figure 1). The diverticulum was covered by peritoneum and was about 3 cm in length and 2 cm wide at the base. After removing the peritoneal covering, the lateral border of the diverticulum was incised. There was a valveless opening seen,

which communicated with the duodenal lumen (Figure 2). Undigested food particles were observed in the lumen of the diverticulum. The subject's medical history is not known to us.

Discussion

Small bowel diverticula are usually acquired (false diverticula) and multiple in contrast to the Meckel's diverticulum [4]. Most of the duodenal diverticula are extramural, but the presence of it in the outer border is rare [5, 6]. Extramural duodenal diverticula are again classified into two types, (a) peri-ampullary diverticula, which is present adjacent to the ampulla of Vater or it may even contain ampulla of Vater or common bile duct; (b) juxta-periampullary duodenal diverticula, when the diverticula are located within the 2 cm radius of the major duodenal papillae [5]. According to the literature the larger pouches usually lack a muscular coat. The extramural duodenal diverticula are classified into types (a) congenital or true pouches, if the muscular layer is present; (b) acquired or false pouches if muscular layers are absent [5]. The thickness of the wall of the extramural pouch we found had the similar thickness as the second and the third part of the duodenum in the cadaver, suggesting a congenital

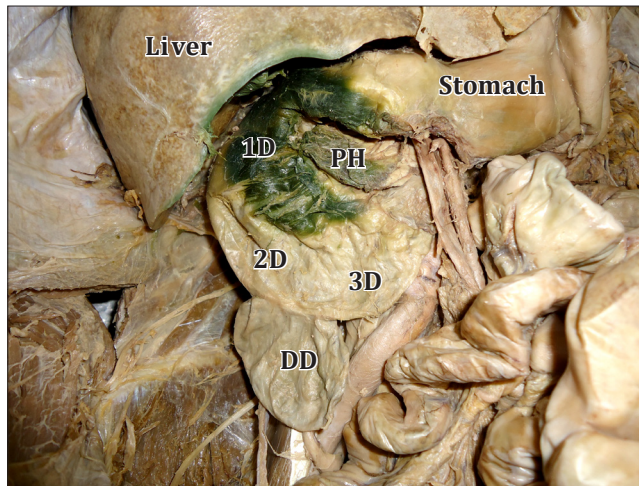


Figure 1. Dissection of the abdominal cavity showing the duodenal diverticulum. (1D, 2D, 3D: the first, second and third parts of the duodenum; PH: head of the pancreas; DD: duodenal diverticulum)

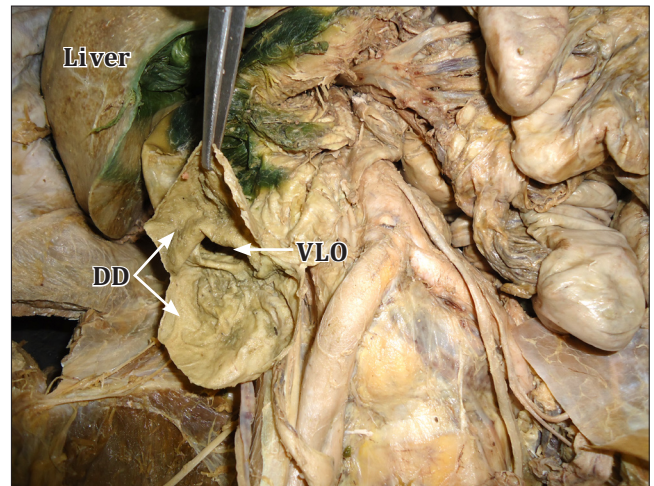


Figure 2. A view of the interior of the pouch which shows the continuity of the duodenal lumen into the diverticulum. (DD: duodenal diverticulum; VLO: valveless luminal opening)

origin. Previous studies suggest that clinical presentation of the duodenal diverticula is upper abdominal pain, duodenal ulcers, diverticulitis, perforations or symptoms of the delayed

emptying of the diverticulum [7]. The knowledge of this kind of duodenal pouch is very important for surgeons, radiologists, gastroenterologist and physicians.

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