Cystogastrocolic fold and associated atrophy of the gallbladder

Pamidi N, Nayak S, Vollala V R

ABSTRACT
Peritoneal anomalies are common in humans. We report the presence of a cystogastrocolic fold associated with an abnormally small gallbladder in a 50-year-old male cadaver. Presence of this fold is one of the clinically important anomalies, which can result in atrophy of the gallbladder or congenital obstruction of the duodenum.

KEY WORDS
Cystogastrocolic fold, gallbladder atrophy, peritoneal anomaly, peritoneum

INTRODUCTION
The peritoneum is the largest and most complexly-arranged serous membrane in the body. The potential peritoneal spaces, the peritoneal reflections forming peritoneal ligaments, mesenteries, omenta and the natural flow of peritoneal fluid determine the route of spread of intraperitoneal fluid and consequently, disease processes within the abdominal cavity. The peritoneal ligaments, mesenteries and omenta also serve as boundaries for disease processes and conduits for disease spread. The process of formation of the peritoneal folds around the stomach, duodenum and liver is a complicated process.

CASE REPORT
During the routine dissection classes for the medical undergraduates in the Department of Anatomy at Melaka Manipal Medical College, Manipal, a 50-year-old male cadaver was found to have an abnormal peritoneal fold (Fig. 1). It extended from the pyloro-duodenal junction and the right colic flexure to the liver (cystogastrocolic fold). On the liver, it was attached to the inferior border and inferior surface of the right lobe of the liver. The gallbladder was very small (Fig. 2) and was completely covered (buried) in the cystogastrocolic fold (Fig. 1). The course and relations of the common bile duct were normal. The quadrate lobe of the liver was small and was almost separated from the liver except at its posterior end.

DISCUSSION
During the embryonic life, the stomach is first seen as a fusiform dilatation of the foregut just distal to the oesophagus. Its dorsal border is attached to the posterior abdominal wall by a fold of peritoneum called dorsal mesogastrium, and its ventral border is attached to the anterior abdominal wall by the ventral mesogastrium. The ventral mesentery exists only in the region of the terminal part of the oesophagus, the stomach, and upper part of the duodenum, and is derived from the septum transversum. Growth of the liver into the mesenchyme of the septum transversum divides the ventral mesentery into (a) the lesser omentum, extending from the lower portion of the oesophagus, the stomach, and the upper portion of the duodenum to the liver, and (b) the falciform ligament, extending from the liver to the ventral body wall. The rest of the ventral mesentery disappears. The cystogastrocolic fold reported here is probably due to non-disappearance of rest of the ventral mesentery.

Fig. 1 Photograph taken during dissection of the abdomen shows the liver and cystogastrocolic fold.

RL: right lobe of the liver; LL: left lobe of the liver; CGCF: cystogastrocolic fold; S: stomach; GO: greater omentum; TC: transverse colon

Department of Anatomy, Melaka Manipal Medical College, Manipal University, Manipal 576104, Karnataka, India

Pamidi N, MMsc, MSc
Lecturer
Nayak S, PhD
Associate Professor
Vollala VR, MSc
Lecturer

Correspondence to:
Dr Narendra Pamidi
Tel: (91) 8202 322 568
Fax: (91) 8202 371 995
Email: ponnimidi_narendra@yahoo.co.in
variations; accessory or double gallbladders have been reported. A case of triple gallbladders has also been reported. Floating gallbladders with mesenteries have been reported. In a study of 27 patients, there were 13 lumbar, nine pelvic and five iliac gallbladders, with poor function in 20 of them. The floating gallbladders are prone to volvulus. Two cases of volvulus of the gallbladder have been reported. There are reports of the presence of a gallbladder embedded in the internal oblique muscle of the abdomen. The case presented here seems to be clinically important. The degeneration of the gallbladder in our case could be because of its position in the cystogastrocolic fold of the peritoneum. The fold was probably congenital and short, and it would not have allowed the gallbladder to grow in size. The knowledge of this type of peritoneal fold is important for surgeons performing gastrectomy, liver transplant surgery and cholecystectomy.

REFERENCES