Accessory sulcus of the liver – an incidental laparotomy finding

G. D. Yadav · P. Deka

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Abstract The diaphragmatic surface of the liver is normally smooth but may be grooved occasionally. Such grooves could be ‘cough furrows’ or due to a ‘corset liver’. Accessory sulci have also been described and may confuse the inexperienced surgeon. We describe one such case of an accessory sulcus found incidentally at laparotomy.

Keywords Accessory sulcus · Corset liver · Cough furrow

A 70 year old male presented with a history of pain and progressive distension of abdomen for two days. Plain x-ray of the abdomen showed gas under the diaphragm. At operation, a 1x1 cm prepyloric gastric perforation was found and incidentally, a smooth groove, deep enough to admit the tip of the surgeon’s index finger, was felt in the diaphragmatic surface of the right lobe of the liver extending from the supero-posterior aspect obliquely, stopping just short of the inferior margin anteriorly (Figs. 1, 2).

The normally smooth diaphragmatic surface of the liver may be occasionally grooved due to pressure exerted by the muscle fibres of the diaphragm [1]. Chronic cough could be a predisposing factor, leading to the term “cough furrows” [2].

“Corset liver” is an entity wherein prolonged application of a tight corset with the purpose of developing an attractive figure or for the correction of scoliosis, leads to the development of such grooves [3].

Macchi et al described the main accessory sulcus (MAS) that may represent a marking for the right portal fissure and

Fig. 1 Operative photograph showing accessory sulcus in the right lobe of liver

G. D. Yadav¹ · P. Deka²

¹Associate Professor of Surgery,

²Junior Resident,

Department of Surgery.

GSVM Medical College,

Kanpur - 208 002, India

P. Deka (✉)

email: dekapran@rediffmail.com

Ph: +91 / 9839141644

Fig. 2 Operative photograph showing the tip of the surgeon's finger in the accessory sulcus

hence a superficial reference for the deep course of the right hepatic vein [4]. Macchi et al also found a 67% correspondence between the topography of the sulci and the course of the right and middle hepatic veins [5].

Auh et al found a 25% incidence of accessory fissures on CT scans, with depth 2cm or more in one-third cases [6].

Thus the present case could be considered an accessory sulcus, as there is no history of chronic cough, trauma or use of a corset. Such an entity should be kept in mind when evaluating patients of abdominal trauma as imaging studies or even direct palpation during laparotomy may give a

false impression of a liver laceration. Moreover such sulci could aid the surgeon during hepatic segmental resection procedures.

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