Duct of Luschka: Inadvertent biliary injury

Rahul Gupta

Attending Surgeon, Dept. of Surgery, Beth Israel Deaconess Hospital-Milton, USA

***Corresponding Author: Rahul Gupta**
Email: rgsurg@yahoo.com

Abstract
50-year-old female underwent routine uneventful laparoscopic cholecystectomy. Post-operative period was complicated by biliary leak. Magnetic resonance cholangiography delineated the site of injury as duct of luschka (sub-vesical duct) originating from the right hepatic duct. ERCP with stenting remains the mainstay of treatment allowing for preferential drainage and healing. Staying very close to the gallbladder during removal is the only known preventive measure.

Keywords: Cholecystectomy, Laparoscopy, Luschka, Biliary tract, Magnetic resonance.

Introduction
Laparoscopic cholecystectomy is one of the most common surgeries. The dissection modules for cholecysto-hepatic triangle have been rigorously evaluated and surgical training modified accordingly. Biliary leakage from gallbladder bed has been commonly mischaracterized due to duct connecting the gallbladder and biliary system. On review of literature "duct of Luschka" is defined as a sub-vesical duct originating from right biliary system.[2-4] We present a case of sub-vesical biliary duct injury with Magnetic resonance delineation. This case also reiterates the importance of superficial dissection or "staying close to the gallbladder" during disconnection from liver.

50-year-old female underwent routine laparoscopic cholecystectomy. The surgery was uneventful with meticulous dissection and attainment of critical view of safety. On post -operative day 7, patient presented to the hospital with abdominal distension, leukocytosis and intraperitoneal biliary leakage. Magnetic resonance Imaging (Fig. 1) and magnetic resonance cholangiogram (Fig. 2) delineate the site of leak. The image analysis defines leak from sub vesical branch of right hepatic duct. Percutaneous biliary drainage followed by ERCP and stenting was adequate to control biliary leakage.

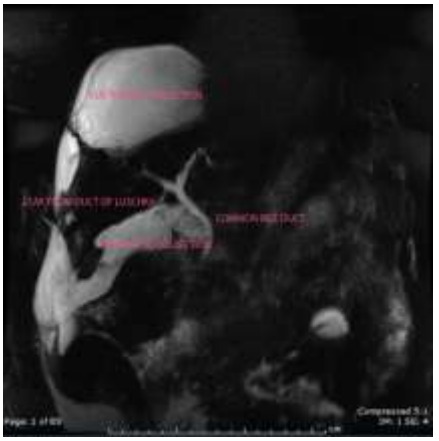

Fig. 1: Represents MRI image of leak from duct of Luschka

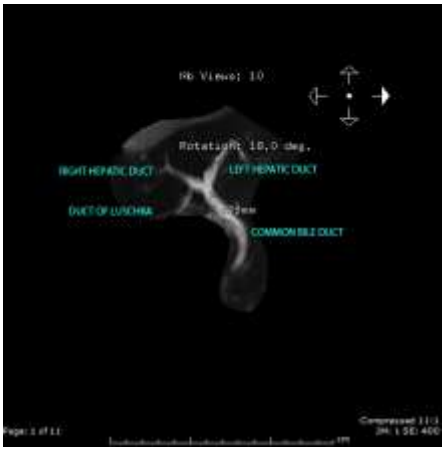

Fig. 2: illustration of magnetic resonance cholangiogram showing origin of duct of Luschka

Discussion
The ducts of luschka were originally described by German anatomist Hubert von luschka.[1] He illustrated them as "slender bile ducts running along the gallbladder fossa draining into the right hepatic duct or common duct". His work has been variably and at times poorly referenced in the literature. The description in some articles suggest small ducts directly draining into the gallbladder, other articles depict them as miniscule ducts in the liver capsule. Current literature portrays duct of luschka as sub-vesical duct draining into the right biliary system, although variability exists in both course and destination.[2,3]

The biliary anatomy and associated variations are very important to hepatobiliary surgeons. Sub-vesical duct is a potential site of injury in gallbladder and hepatic surgery.[3,4] Incidence of sub-vesical duct injury in cholecystectomy is equivalent to leakage from cystic duct and major bile duct injuries. Most injuries occur after ligation of cystic duct and artery and during dissection of the gallbladder from the liver. These injuries are unlikely to be detected by intraoperative cholangiography. Prophylaxis against such injuries require staying close to the gallbladder during removal. ERCP and stent placement direct preferential flow

to the biliary system and thus most effective therapeutic intervention.

Conflict of Interest: None.

References

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How to cite this article: Gupta R. Duct of Luschka: Inadvertent biliary injury. *J Surg Allied Sci* 2019;1(2):40-1.