

Study of Abnormal Anatomical Variations in Extrahepatic Biliary Apparatus and Its Related Vessels in Cadavers

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ABSTRACT

Background: In the current era, the laparoscopic procedure such as laparoscopic cholecystectomy, laparoscopic hepatobiliary surgery and other open procedures such as open cholecystectomy, biliary stricture surgery, are performed regularly throughout the world and extrahepatic biliary tract is one of the most common sites of the surgical procedures. The incidence of biliary tract injury by laparoscopic cholecystectomy has been found to be higher than open cholecystectomy. Apart from various other causes of biliary injuries aberrant anatomical course of extrahepatic biliary system is a well established fact of iatrogenic ductal injury. Thus, an adequate recognition and awareness of anatomical abnormalities of extra hepatic biliary tree with its vessel, can decrease the morbidity and mortality related to the surgery.

Methods: Study was done in Department of Surgery, Gandhi Medical College and Hamidia Hospital Bhopal, India on 100 cases, during period of Aug 2014 to Nov 2015, and dissection was carried out in department of Forensic Medicine and Toxicology after taking permission from ethical committee.

Results: In 100 cases of study 72 were male and 28 were female in which 16% male and 10.7% female showed variations in their anatomy. The most common variation which we observed in our study was short cystic duct in 8 cases, and second most common variations was cystic artery origin, from left hepatic artery in 3 cases and from proper hepatic artery in 1 case, other variations were floating gall bladder in 1 case, intrahepatic union of left hepatic duct and right hepatic duct in 3 cases, low insertion of cystic duct in 3 cases, high insertion of cystic duct to common hepatic duct in 1 case, and in one case cystic artery passing anterior to common hepatic duct.

Conclusion: There was a significant variations seen in extrahepatic biliary apparatus and its related arterial supply in our study, and these variations observed could definitely be useful to hepatobiliary, laparoscopic surgeons and radiologist. And will further contribute to literature available on variations of extrahepatic biliary system.

Abbreviations: GB - Gallbladder, CHD - Common Hepatic Duct, CBD - Common Bile Duct, CD - Cystic Duct, RHD - Right Hepatic Duct, LHD - Left Hepatic Duct

Key words: extrahepatic biliary apparatus, cystic duct, laparoscopic cholecystectomy