Research Paper

Volume : 5 | Issue : 6 | June 2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 69.48

Anatomy of Common Hepatic Duct Formation at Hepatic Hilum

Anatomy

KEYWORDS : Right hepatic duct, left hepatic duct, common hepatic duct, intrahepatic, extrahepatic

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ABSTRACT

The joining of right and left hepatic ducts to form common hepatic duct can be intrahepatic or extrahepatic. The research in the field of anatomy has contributed a lot to the practice of surgery. The need to learn about the type of union lies with various surgical procedures. Hence, present study was carried out in the Anatomy department of PGIMS, Rohtak (Haryana). Intrahepatic union of right and left hepatic duct was observed in 38% cases thus implying that chances of emergence of single duct from the liver could be high whereas 62% cases showed extrahepatic union.

INTRODUCTION

Right and left hepatic ducts emerge out from the hepatic hilum. They join to form common hepatic duct which is joined by the cystic duct to form the common bile duct. The distance at which they unite is quite variable.[1] The union of right and left hepatic ducts may occur within or outside the liver. The extrahepatic right duct is short and mainly vertical while the left duct is more horizontal. The type of formation of common hepatic duct is important from an anatomical point of view and may evolve interest for surgeons to know about it. Present study was undertaken to highlight this parameter.

MATERIAL & METHOD

The present study was conducted on 50 adult human cadavers belonging to age group 18 to 60 years in the department of Anatomy in collaboration with the department of Forensic Medicine and department of Surgery, Pt. B. D. Sharma PGIMS, Rohtak during medico-legal autopsies done in the department of Forensic Medicine after taking informed consent. Specimens were collected as block dissection of the liver along with its associated structures. Detailed dissection was done to expose structures at and near hepatic hilum area to look up for the formation of common hepatic duct.

RESULT & OBSERVATION

Table 1 shows frequency of type of formation of common hepatic duct. In 38% of samples, intrahepatic union of right and left hepatic duct was identified whereas in 62% of samples, right and left hepatic ducts were observed to unite extrahepatically to form common hepatic duct. (figure.1)

Table 1: Frequency of type of formation of common hepatic duct

Formation of common hepatic duct	No. of specimens	%
Intrahepatic union of right hepatic duct & left hepatic duct	19	38%
Extrahepatic union of right hepatic duct & left hepatic duct	31	62%

DISCUSSION

The right and left hepatic ducts unite to form common hepatic duct either extrahepatically or intrahepatically. Comparison of union of hepatic ducts reported by various workers is shown in the table below:

Table 2: Comparison of union of hepatic ducts as reported by various authors

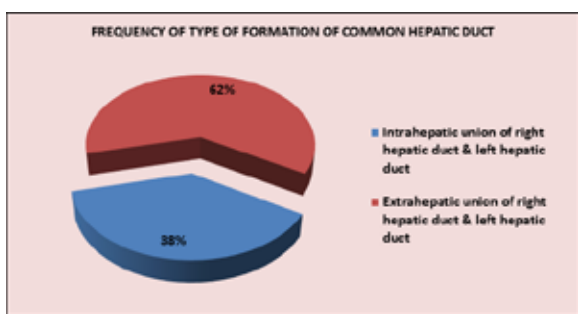
Authors	No. of cases	Extra-hepatic union	Intra-hepatic union
Beaver[2]	50	100%	-
Ruge[3]	43	79%	21%
Eisendrath[4]	100	100%	-
Thompson[5]	50	90%	10%
Nigam et al[6]	-	100%	-
Present study	50	62%	38%

In the present study in 50 cases, extrahepatic union was noted in 31 cases (62%) and intrahepatic union was observed in 19 cases (38%). However, Beaver, Eisendrath and Nigam et al reported extrahepatic union of right and left hepatic ducts in 100% of the cases. On comparing the studies cited above, extrahepatic union of right and left hepatic ducts was found to be more common. Incidence of intrahepatic union of right and left hepatic ducts was highest in the present study. This implies that chances of single duct emerging from the liver were very high (38%) and thereby important for surgeons to know this finding.

CONCLUSION

Present study was a part of larger study where extrahepatic biliary apparatus was taken into account. The extrahepatic or intrahepatic formation of common hepatic duct came out as a pilot parameter. The variability in the frequency of its formation may pose a threat to surgeons while dealing this area of hepatic hilum and thus our study has acknowledged it.

FIGURE 1: FREQUENCY OF TYPE OF FORMATION OF COMMON HEPATIC DUCT



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