Journal of Cardiovascular Disease Research

ISSN: 0975-3583, 0976-2833 VOL9, ISSUE3, 2018

Original Research Article

To state the incidence of various anomalies encountered in the extra hepatic duct system

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Abstract

Background & Methods: The aim of the study is to study state the incidence of various anomalies encountered in the extra hepatic duct system. The cadaver's chest and abdomen was opened by a long standard midline incision extending from chin to suprapubic region. The small intestine and stomach were retracted downward and laterally towards left, so that the hepatoduodenal ligament was stretched to expose its contents properly.

Results: The right and left hepatic ducts from the corresponding lobes of liver unite to form common hepatic duct either extrahepatically or intrahepatically.

Conclusion: Cystic duct joins the common hepatic duct as angular type of union in 75% of cases. Cystic duct joins the common hepatic duct at a point in which it makes common hepatic duct shorter and common bile duct longer. This is considering as normal of union. Cystic artery arising from the coeliac right hepatic artery is seen inside the calot's triangle dividing into superficial and deep branches to Supply the respective surfaces of gall bladder is noted to be the commonest arrangement. Right hepatic artery arises from hepatic proper and seen to the left side of duct system.

Keywords: incidence, anomalies, hepatic & duct system.
Study Design: Observational Study.

1. Introduction

The term "Hepatic Pedicle" is used to designate the upper end of Hepatoduodenal ligament and the structures contained by it. At the epiploic foremen the contents of the pedicle can be grasped between thumb and forefinger, as they are placed closely tighter in the right free border at the anterior margin of foramen[1]. Common Bile Duct normally lies anteriorly and to the right. Hepatic artery normally lies anteriorly and to the left of Common Bile Duct. Portal Vein lies behind the duct and artery, usually largely to the left of Common Bile Duct[2].

Knowledge of congenital anomalies in abdominal viscera is important for surgeons, if they have to treat such patients and solve their problem adequately. Extensive research has been done over hepato-biliary region and almost all types of possible variations have been documented with details, in all parts of the world[3].

Certainly it was not a one man's job. The combined efforts of Anatomist, surgeon and radiologist made the search extensive. During the end of 19t century and early part of 20th century the hepatobiliary anatomy was clearly defined and the anomalies were classified.

ISSN: 0975-3583, 0976-2833 VOL9, ISSUE3, 2018

Therefore in this section we have tried to collect from literature the isolated reports, relevant to the subject of anomalies and to present them in unified manner[4].

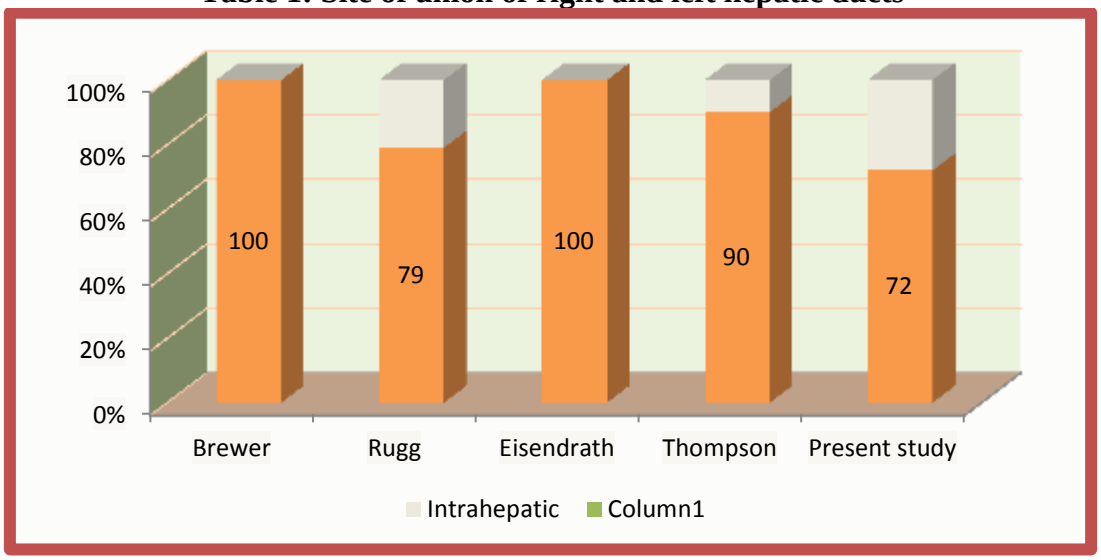
2. Material and Methods

Present study was conducted at Index Medical College Hospital & Research Centre, Indore, M.P., for 01 Year. The cadaver's chest and abdomen was opened by a long standard midline incision extending from chin to suprapubic region. The small intestine and stomach were retracted downward and laterally towards left, so that the hepatoduodenal ligament was stretched to expose its contents properly. The term "hepatic pedicle" is commonly used to designate the upper end of hepatoduodenal ligament and the structures which it contains i.e. the structures entering or leaving the hilum of the liver.

At the epiploic foramen the constituents of the pedicle may all be grasped together between thumb and forefinger if desired, for they are placed closely together in the right, free border of hepatoduodenal ligament at the anterior margin of the foramen.

3. Result

Table 1: Site of union of right and left hepatic ducts



The right and left hepatic ducts from the corresponding lobes of liver unite to form common hepatic duct either extrahepatically or intrahepatically.

Brewer (1900) from dissection of 50 specimens found 100% extra hepatic union of right and left hepatic ducts.

Rugg (1908) studied 43 cadavers. In that he observed extra hepatic union of right and left hepatic ducts in 79% and intrahepatic union of right and left hepatic ducts in 21%.

Eisendrath (1918) gave similar reports as Brewer. He also observed 100% union of extra hepatic right and left hepatic ducts from 100 specimens.

Thompson dissected 50 specimens in 1933 and noted 90% extra hepatic union and 10% intrahepatic union of right and left hepatic ducts.

In the present study on 200 specimens extra hepatic union of right and left hepatic ducts was noted in 70% of cases and intrahepatic union of right and left hepatic ducts in 30% of cases.

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Table 2: Types of union of cystic duct with common hepatic duct

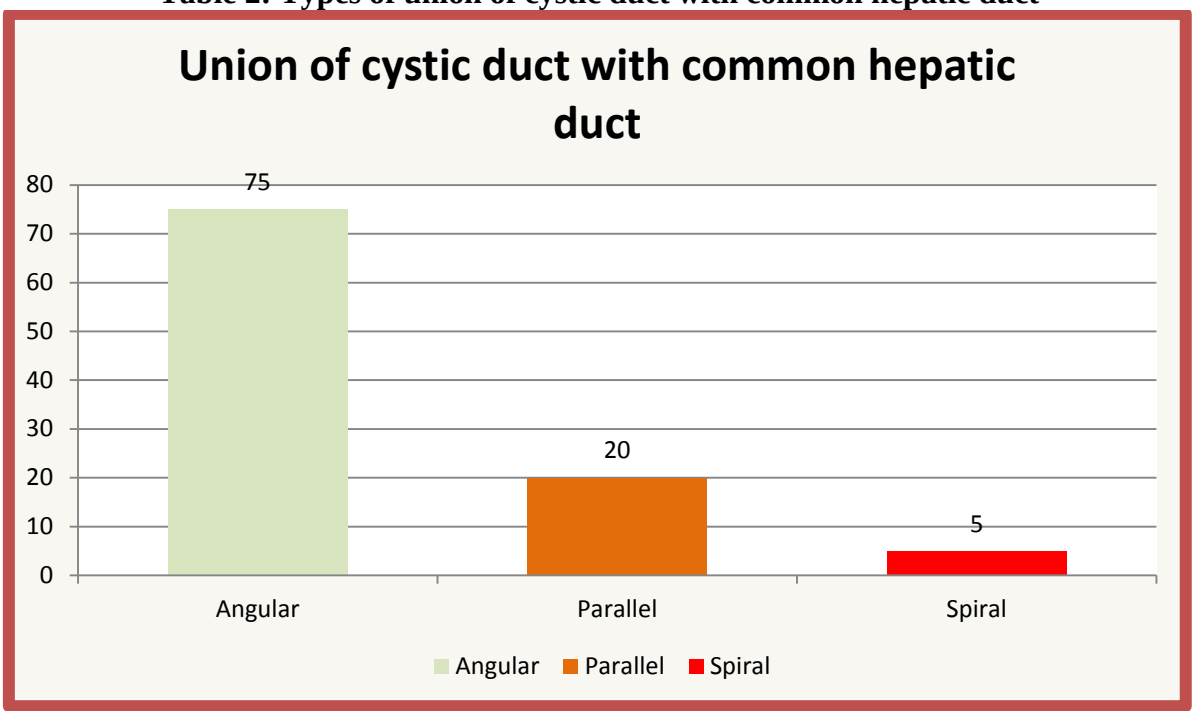
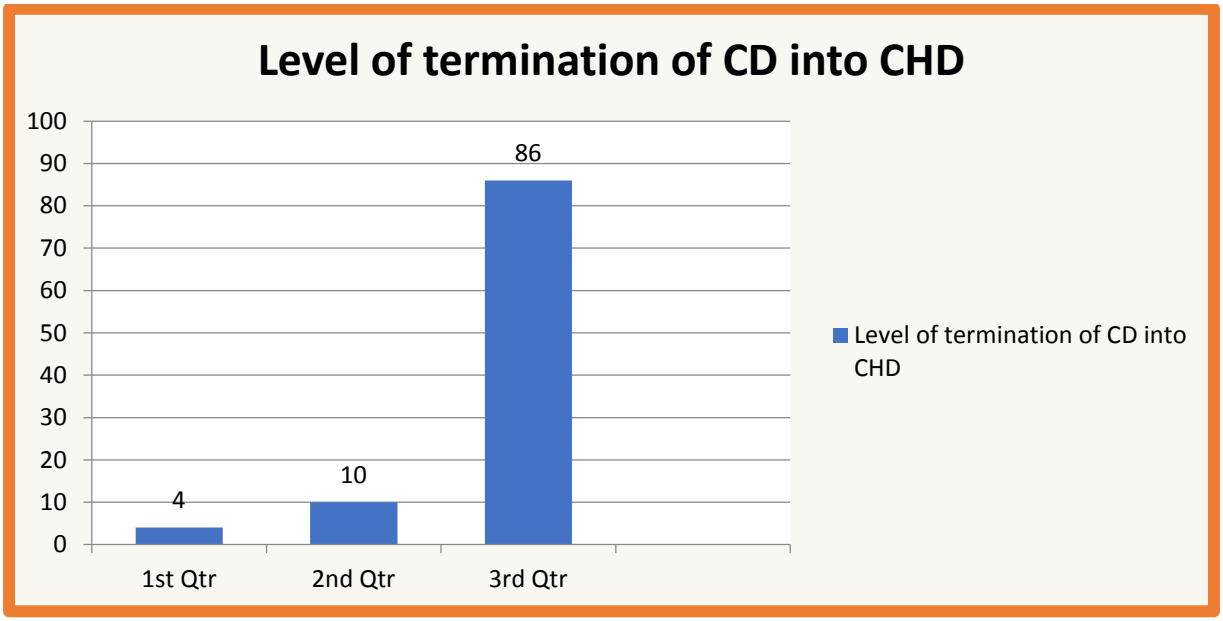


Table 3: Level of termination of CD into CHD



4. Discussion

Eisendrath's (1918) study on 100 specimens showed angular type - 75%, parallel type - 17% and spiral type - 8%.

Thompson (1933) dissected 50 cases and observed angular type - 90%, parallel type - 6% and spiral type - 4%.

An elaborate study of 194 cadavers was done by **A. Lurje M.D.,** (1937). He stated angular type - 46.9%, parallel type - 30.9% and spiral type - 22.2%.

Edward V. Johnston (1952) in his work on 35 specimens, visualized angular type - 51.4%,

ISSN: 0975-3583, 0976-2833 VOL9, ISSUE3, 2018

parallel type - 31.4% and spiral type - 17.1%.
But in present study (2013), we observed angular type in 75%, parallel type in 20% and spiral type of union in 5 % were found[5]. This agrees with Eisendrath's study except in spiral type of union. On comparing the above studies, the most common type of union of cystic duct with common hepatic duct is angular type.
In high level of union cystic duct unites with common hepatic duct close to the bifurcation of right and left hepatic ducts[6]. In this level the common hepatic duct length is very small than its average and common bile duct length is more. In low level of termination, cystic duct unites with common hepatic duct further away from the bifurcation to make common hepatic duct longer than common bile duct[7].
In Normal level of union common bile duct is longer than common hepatic duct. **Hossein Mahour** in (1961), from a study on 100 autopsies, described about the height of termination of cystic duct. In that, in 80% of cases cystic duct runs obliquely to join common hepatic duct[8]. This type gives a short hepaticus and long common bile duct, this type was observed to be more common. In 18% of cases low level of union and in 1.5% of cases high level of union was noted[9].
In the present study, normal level of union of cystic duct with common hepatic duct was visualized in 86% (172) of cases, high level of union of cystic duct with common hepatic duct was observed in 4% (8) of cases, and low level of union was not noted in10%(20) of cases. Hence the present study coincides with that of Hossein Mahour in terms of normal level of union but not regarding high and of low level of union[10].

5. Conclusion

Cystic duct joins the common hepatic duct as angular type of union in 75% of cases. Cystic duct joins the common hepatic duct at a point in which it makes common hepatic duct shorter and common bile duct longer. This is considering as normal of union. Cystic artery arising from the coeliac right hepatic artery is seen inside the calot's triangle dividing into superficial and deep branches to Supply the respective surfaces of gall bladder is noted to be the commonest arrangement. Right hepatic artery arises from hepatic proper and seen to the left side of duct system.

6. References

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