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Anomalous Pancreatico Biliary Ductal Union- A Cadaveric Study

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ABSTRACT

Background: *Pancreatico biliary ductal union is a complex anatomical and functional entity. An anomalous pancreaticobiliary ductal union (APBDU) describes the abnormal junction of the pancreatic duct and common bile duct that occurs outside the duodenal wall to form a long common channel (> 15 mm). There are a variety of pancreaticobiliary diseases that are associated with APBDU.* ***Objective:*** *The aim of this study was to determine the frequency of anomalous pancreaticobiliary ductal junction in cadaveric specimen* ***Methods:*** *A cross-sectional, descriptive study was done in the Department of Anatomy, Madurai Medical College, based on collection of 42 cadaveric specimen of male & female human pancreas.* ***Results:*** *In the present study, when the common channel was measured, 41% showed a channel length more than 3mm, 56% showed a channel length upto 3mm and 3% greater than 12mm.* ***Conclusion:*** *The prevalence of anomalous Pancreatico biliary ductal union is 3% among the specimen studied and those population of people are associated with congenital cystic dilatation of the common bile duct, biliary tract carcinoma , choledochal cyst and acute pancreatitis..*

KEYWORDS : pancreaticobiliary duct, anomaly, carcinoma, bile duct

INTRODUCTION

The anatomy of the distal ends of the common bile duct and the main pancreatic duct has received attention because of its importance in pancreaticobiliary diseases, the two ducts open in the duodenum either separately or via a common channel. The length of the common channel in normal people ranges from 1-12 mm, with a mean of about 4-5 mm[1]. In APBD the connection between the common bile duct and the main pancreatic duct is located outside the duodenal wall. Common channel with more than 3mm in length is always associated with reflux pancreatitis in a case of block.

MATERIAL AND METHODS

42 adult pancreas specimens were collected from the cadavers in the Department of Anatomy, Madurai Medical College. Pancreas was removed along with the duodenum and retropancreatic part of the bile duct. Piecemeal dissection of the Specimens was done to see the pattern of pancreatic ducts and mode of their opening into the 2nd part of duodenum was done. The length of the common pancreatico-biliary channel was measured.

RESULTS:

The Common Channel formed by the union of main pancreatic duct and common bile duct was measured, depending upon the length of the channel; specimens were grouped into 3 categories. The total 42 specimens were studied by dissection method. The following observations were made during the study.

The observations were tabulated in 3 groups.

The Group I is where the length of common channel was measured to a maximum of 3 mm (FIG 1). This was observed in 24 specimens.

In the Group II the length measured was more than 3mm and to a maximum of 12 mm (FIG 2). The length of common channel measured in 17 specimens came under this group.

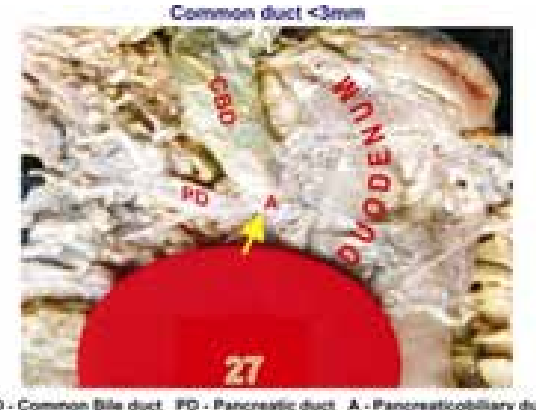
The Group III is where the common channel length has to be more than 12mm which was observed only in one specimen (FIG 3).

From the Table No.1 it is evident that totally 18 specimens showed a common channel length of more than 3 mm length.

In one specimen the length of the common channel was measured as 15mm. In this type the junction was noted as of a P-B type (Pancreatic-Biliary type).

Table 1: Length of the Common Channel

		Percentage
Specimens studied	42	100%
Length of the common channel		
Upto 3 mm (Group –I)	24	56%
More than 3mm and less than or equal to 12 mm (Group – II)	17	41%
Greater than 12 mm (Group – III)	1	3%

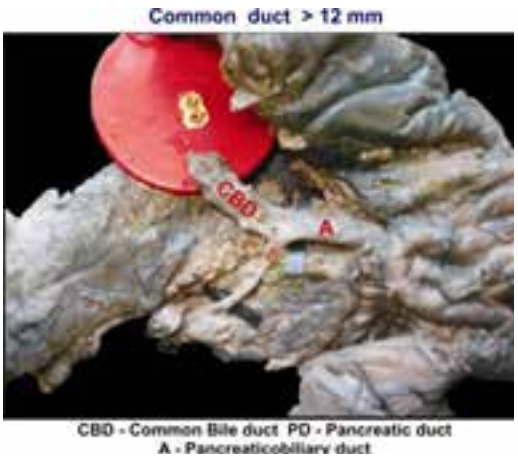


CBD - Common Bile duct PD - Pancreatic duct A - Pancreaticobiliary duct

fig 1 common channel bile and pancreatic duct (Upto 3 mm)

A - common Bile duct B - Pancreatic duct C - Pancreaticobilliary duct

fig 2 common channel bile and pancreatic duct (More than 3mm)



CBD - Common Bile duct PD - Pancreatic duct
A - Pancreaticobilliary duct

fig 3 common channel bile and pancreatic duct (Greater than 12 mm)

DISCUSSION

Archibald [2] noted the average length of common channel as 2 mm. The present study result is not coinciding with the above worker. Naatnan [3] noted the average length of common channel as 6mm in his study. K.B. Chauch C.K.Yap and H.S. Nag [5] in their study based on Singapore population quoted an average length of 4.5mm for the common channel. The present study result is closely related to the above mentioned works. One more group is defined in this study where the common channel is having a length more than 12mm. In this group only one specimen where a common channel with the length of 15mm was noticed. A Japanese study group [4] described this condition, where common channel length is more than 12mm, as Anomalous Pancreatico Biliary Ductal Union (APBDU) which is a congenital anomaly. They described 2 types of APBDU.

a.Pancreatic – biliary type (P-B type) where pancreatic duct is joining the bile duct.

b.Biliary – pancreatic type (B-P type) where common bile duct is joining the pancreatic duct

In the present study APBDU noted was of P-B type.

The known associations of APBDU include bile duct cancer, gall bladder cancer and gall bladder adenomatosis. Associations were noted for B-P type with choledochal cyst and P-B (type noticed in this study) with gall bladder cancer and biliary pancreatitis. This people with a long common channel is prone for reflux pancreatitis when there is an obstructive lesion in the common channel either due to tumor or stone.

CONCLUSION

The prevelance of anamolous pancreatico biliary ductal union is 3% among the specimen studied and those populations of people are associated with congenital cystic dilatation of the common bile duct, biliary tract carcinoma , choledochal cyst and acute pancreatitis. The finding is useful to the surgeons during the extraction of gall stones and in stricture surgeries to prevent post operative complication.

REFERENCES

1. Opie, E.(1903), "The anatomy of the pancreas." -Johns Hopkins Hosp Bull ;150 : 229-232.
2. Archibald, E. (1919). The experimental production of pancreatitis in animals as the result of the resistance of the common duct sphincter. Surg. Gynec. Obstet., 28: 529-545.
3. Naatanen, E (1941)..: Über die gegenseitigen Beziehungen zwischen den Pankreasgangen und den Gallengangen. Z. Anat. Entwicklungsgeseh, 111: 355,
4. The Japanese study group on pancreatico biliary maljunction (1994) - Jhep Bil Panc Surgery:1;219-21.
5. Chuah KB, Yap CK, Ng HS (2001) Extrahepatic bile duct length in the Singapore population -; Singapore Med J. Apr;42(4):165-9.