Original Research Paper

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Radiodiagnosis

EVALUATION OF THE ACCURACY OF MRCP OVER ULTRASOUND IN DIAGNOSING THE CAUSES OF OBSTRUCTIVE JAUNDICE

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KEYWORDS :

Obstructive jaundice is a common clinical problem. It has been documented as one of the leading cause of increased mortality and morbidity. Though clinical data such as history, physical examination, and laboratory tests can differentiate between intrahepatic & extrahepatic obstruction in 90% of patients, the cause and site of obstruction is diagnosed by imaging modalities.

AIMS & OBJECTIVES

- To evaluate the diagnostic accuracy of Magnetic Resonance Cholangiopancreatography (MRCP) in assessing the level and cause of obstruction in patients with Obstructive Jaundice.
- To establish the accuracy of MRCP over Ultrasound in diagnosing the causes of Obstructive Jaundice.

REVIEW OF LITERATURE

Familiarity with normal gross and radiological anatomy is a prerequisite to understand the broad spectrum of disorders that affect the biliary and pancreatic system[1].

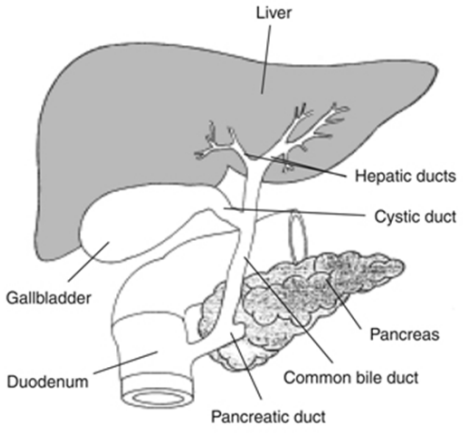


Illustration 1: Normal anatomy of biliary tract.

The biliary tract consists of:

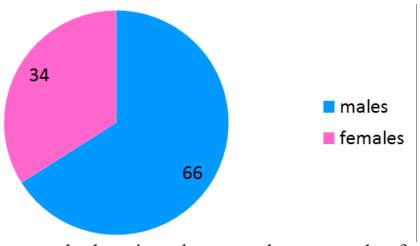
- Intra hepatic bile ducts
- Common hepatic duct
- Gall bladder
- Cystic duct
- Common bile duct & Pancreatic Duct

OBSERVATION & ANALYSIS

A total of Thirty patients who were clinically diagnosed as having pancreatico – biliary diseases were sent for MRCP and are included in the present study.

Table No. 01. Sexwise Distribution In The Pancreatico-biliary Diseases.

SEX	NO. OF CASES	PERCENTAGE (%)
MALES	21	66 %
FEMALES	9	34 %
TOTAL	**30**	**100 %**



In the Present study there is male preponderance, male ; female ratio being 1.9:1.

Table No.02: Agewise Sdistribution In Pancreatico – Biliary Diseases.

AGE (YEARS)	NO. OF PATIENTS	PERCENTAGE (%)
0-18	03	10
19-40	10	33.3
> 40	17	56.6
TOTAL	30	**100 %**

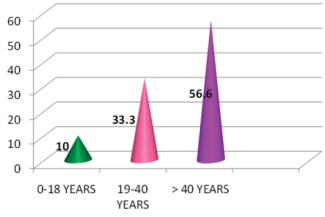


Table 03 : Number Of Patients Showing Varioud Diseases As Observed On Mrcp .

TYPE OF DISEASE	CASES	PERCENTAGE (%)
CHOLANGIOCARCINOMA	6	20
PANCREATITIS	10	33.3
PERIAMPULLARY CARCINOMA	3	10
CARCINOMA PANCREAS	2	6.6
CARCINOMA GALL BLADDER	1	3.3
CHOLEDOCHOLITHIASIS	4	13.3
POST OPERATIVE STRICTURE	1	3.3
CHOLEDOCHAL CYST	2	6.6
BILIARY ATRESIA	1	3.3
TOTAL	30	100%

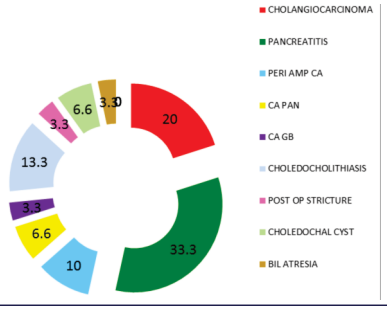
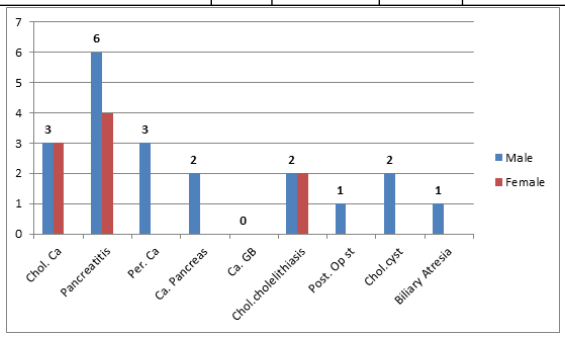


Table 04 : Sesxwise Distribution Of Various Diseases As Observed On Mrcp.

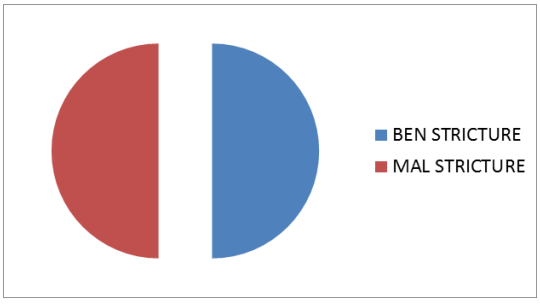
Type Of Disease	Males	Percentage (%)	Females	Percentage (%)
Cholangiocarcinoma	03	15	03	30
Pancreatitis	06	30	04	40
Periampullary Carcinoma	03	15	00	0
Carcinoma Pancreas	02	10	00	00
Carcinoma Gall Bladder	00	00	0	10
Choledocholithiasis	02	10	02	20
Post Operative Stricture	01	5	00	00
Choledochal Cyst	02	10	00	00
Biliary Atresia	01	5	00	00
Total	20	100%	10	100 %



In the present study the pancreatitis predominated in both male (30 %) and females (40%) followed by cholangiocarcinoma.

Table 05 : Distribution Of Pancreatioco – Bilary Disease Based On Type Of Stricture As Observed On Mrcp.

TYPE OF STRICTURE	NO. OF PATIENTS	PERCENTAGE (%)
Benign	6	50%
Malignant	6	50%
TOTAL	**12**	**100 %**



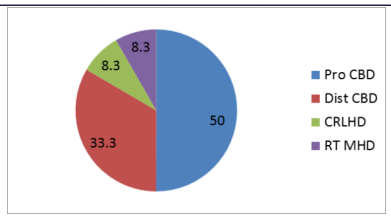
In the present study benign and malignant strictures have equal predominance.

Table 06 : Distribution Of Site Of Stricture Among Benign Invoice Pancreatico-sbilary System As Observed On Mrcp.

SITE OF BENIGN STRICTURE	NO. OF PATIENTS	PERCENTAGE (%)
PROXIMAL CBD	6	60
DISTAL CBD	4	40
TOTAL	**10**	**100%**

Table 07 : Distribution Of Site Of Malignant Stricture Invoice Pancreatico-eilary System As Observed On Mrcp.

SITE OF MALIGNANT STRICTURE	NO. OF PATIENTS	PERCENTAGE (%)
RIGHT MAIN HEPATIC DUCT	1	8.3
LEFT MAIN HEPATIC DUCT	0	0
CONFLUENCE OF RIGHT AND LEFT MAIN HEPATIC DUCTS	1	8.3
PROXIMAL CBD	6	50
DISTAL CBD	4	33.3
TOTAL	12	100 %



The Present study revealed proximal CBD strictures to be more common .

SUMMARY

A total of 30 patients, suspected clinically of spancreatico-biliary diseases underwent MRCP examination, were taken for the purpose of the sutdy.

1. The mean age of the study sample was 40.5 years with a range of 0-81 years.
2. Maximum number of cases were in > 40 years age group.
3. Majority of patients were males.
4. Pain abdomen, Steatorrhea, weight loss, Jaundice and vomiting were the most frequent presenting complaints.
5. Pancreatitis was most common finding followed by Cholangio carcinoma, Cholidocholilethiasis, Percampullary carcinoma, Ca. pancreas & Choliodcheal cyst.
6. Pancreatitis is common in males followed by Cholangio carcinoma which is common in both males and females.
7. Both benign & malignant strictures have equal predominance.
8. Both benign & malignant strictures are common in proximal CBD.
9. MRI and MRCP proved to be a sensitive, non-invasive imaging modality that helps in detection, diagnosis of the disease and provides valuable information of therapeutic and prognostic significance.

CONCLUSION

The introduction of MRCP now readily permits the study of anatomy and pathology of the biliary tree including pancreatic duct very easily. Based on the results of our study the following conclusions can be made :

- MRI serves as an accurate and non invasive, non ionizing imaging method for evaluation of pancreatico-biliary anatomy and pathology.
- Ultrasound still remains the primary investigative modality of choice.
- Combination of MRI and MRCP allows safe surgical management decisions.
- Potentially useful in patients undergoing biliary enteric anastomosis for knowing the level and extent of strictures.
- Very useful tool in case of obese patients and children.
- Drawbacks

a) Claustrophobia
b) No therapeutic and interventional procedures can be carried out
c) Breath holding is not possible in elderly, children and debilitated patients
d) Time consuming.

There is now enough evidence to suggest that the efficacy of MRI and MRCP is at par with that of ERCP and can be considered as the gold standard for evaluation of the pancreatic – biliary system.

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