ISSN- O: 2458 - 868X, ISSN–P: 2458 – 8687
Index Copernicus Value: 68 . 16
PubMed - National Library of Medicine - ID: 101731606

International Journal of Medical Science and Innovative Research (IJMSIR)
IJMSIR : A Medical Publication Hub
Available Online at: www.ijmsir.com
Volume – 5, Issue – 5, October - 2020, Page No. : 22 - 27

Profile and Pattern of Surgical Jaundice, At National Institute of Medical Sciences & Research, Jaipur

[1]Dr. Kush Patel, Department of General Surgery, NIMS Jaipur, Rajasthan

[2]Dr. Sunil Kumar Agarwal, Department of General Surgery, NIMS Jaipur, Rajasthan

[3]Dr. Sanjeev Chaudhary, Department of General Surgery, NIMS Jaipur, Rajasthan

Corresponding Author: Dr. Sunil Kumar Agarwal, Department of General Surgery, NIMS Jaipur, Rajasthan

Citation this Article: Dr. Kush Patel, Dr. Sunil Kumar Agarwal, Dr. Sanjeev Chaudhary, "Profile and Pattern of Surgical Jaundice, At National Institute of Medical Sciences & Research, Jaipur ", IJMSIR- October - 2020, Vol – 5, Issue - 5, P. No. 22 – 27.

Type of Publication: Original Research Paper

Conflicts of Interest: Nil

Abstract

Introduction: Early detection of surgical jaundice etiology can help clinicians to treat accurately and thus will improve quality of life of patient and particularly the survival rates among the patients with malignant pathology. Hence, present study was undertaken to diagnose the cause, site of obstruction, and other clinical features of obstructive jaundice among patients reporting at NIMS Medical College, Jaipur

Material and methods: The present study was conducted among 125 patients suffering from Surgical jaundice of all age groups. All the patients in the study underwent ultrasonography and magnetic resonance cholangiopancreatogram (MRCP). Related parameters were studied and the results so obtained was expressed as percentages and variables as required.

Results: Surgical jaundice occurs more common in females as compared to males. Choledocholithiasis is much more common in females as compared to males but malignant obstructive jaundice had almost equal ratio in both sexes. Commonest age group for obstructive jaundice is 40-60 years. Choledocholithiasis is most common in age group of 30-50 years. Malignancies are more common in 5th and 6th decade of life.

Conclusion: Surgical jaundice was prevalent more in Females than in males in the study population with patients over the age of 80 years. The Choledocholithiasis was the most common cause followed by Carcinoma head of pancreas, Benign biliary stricture, Cholangiocarcinoma .

Keywords- Surgery, Carcinoma, Biliary duct.

Introduction

The Greek word "Icterus", is derived from a species of ferret with Bright Yellow Eyes.[1] The term "Jaundice" is from the French word meaning yellow and refers to the presence of an excess of Bile Pigment in tissues and serum. It is the presenting sign in a number of hepatic and non-hepatic diseases and develops when the serum concentration of bilirubin exceeds 2.5 to 3.0 mg per 100ml.[2]

Surgical Jaundice is a common surgical problem that occurs when there is obstruction to extrahepatic biliary passage. Patients with complete biliary obstruction have clinical jaundice whereas patient with intermittent biliary obstruction may present with pain and fever

with biochemical changes, without developing clinical jaundice.[3]

Diagnosis of Surgical Jaundice needs a battery of recent investigations, to differentiate between benign and malignant causes of bile duct obstruction, which are not available at all centres except tertiary level hospitals.

The main emphasis in dealing with patients of jaundice should be on accurate diagnosis of cause of Surgical Jaundice. The common causes of Surgical Jaundice have been reported to vary, from one centre to another and from one individual to another. Therefore, the present study has been undertaken to study the "Profile and Pattern of Surgical Jaundice, at National Institute of Medical Sciences & Research, Jaipur".

Aims & Objectives

- To analyze the incidence of benign and malignant causes for Surgical Jaundice.
- To analyze the age and sex distribution.
- To study various clinical presentations.
- To evaluate various management modalities.

Materials And Methods

This study shall be carried out at National Institute of Medical Sciences & Research, Jaipur. It is a retrospective observational study involving all patients of Surgical Jaundice admitted from 15th June 2015 to 15th June 2020.

Detailed Patients data shall be collected by using

- Detailed history and clinical examination
- Hematological investigations as per preform, mainly: complete Haemogram, liver function tests including serum alkaline phosphatase, serum proteins and albumin, blood urea, serum electrolytes,
- Radiological investigations like as USG Abdomen and CECT abdomen,
- ERCP and MRCP to assess pathology of biliary tree.
- All the recorded variables will be tabulated and analyzed with multivariate analysis.

Study Design

- Retrospective observational.

Study Area:

- National Institute of Medical Sciences & Research, Jaipur.

Study Population

- All patients above the age of 18 years of either sex.

Sample Size

- All patients, admitted during last 5 years.

Time Frame

- 5 years from, 15th June 2015 to 15thJune 2020.

Inclusion Criteria

- Age: More than 18 years
- All confirmed cases of Surgical Jaundice.

Exclusion Criteria

- Age: Less than 18 years
- Medical Jaundice.

Tables and Charts

Table 1: Age distribution among patients

Age	Number of patients
21-30	7
31-40	27
41-50	30
51-60	30
61-70	21
>70	10

Chart 1: Distribution of patients as per gender

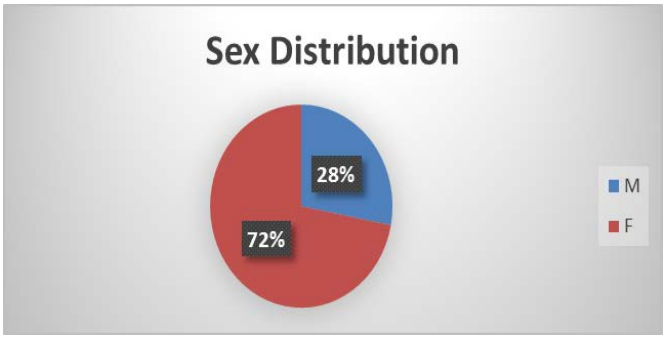


Table 2: Distribution of Surgical jaundice according to nature of disease.

Nature of Disease	Number of patients	Percentage(%)
Benign	79	63.2
Malignant	46	36.8

Table 3: Different Causes of Surgical Jaundice.

Sn.	Etiology	No. of patients	Percentage (%)
1	Choledocholithiasis	62	49.6
2	Carcinoma Head of Pancreas	21	16.8
3	Benign Biliary Stricture	17	13.6
4	Cholangiocarcinoma	13	10.4
5	Ampullary Ca	7	5.6
6	Carcinoma Gall Bladder	5	4

Chart 2 : Accuracy of diagnosis by USG and CT scan in surgical jaundice in correlation with pre-op diagnosis.

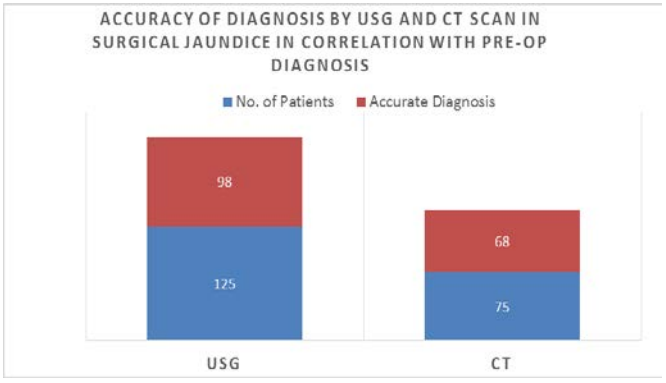
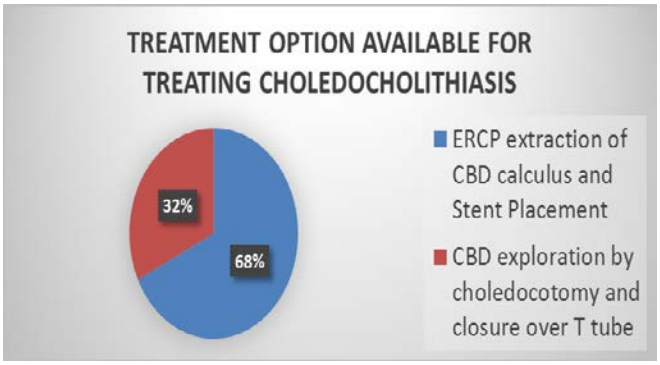


Chart 3: Treatment option available for treating choledocholithiasis.



Results and Observations

- A total of 125 patients were enrolled in this study. The table shows that maximum numbers of patients of surgical jaundice were found in age group of 40-60 years. Youngest patient in series is 25 years and oldest was 80 years of age.
- In our study, there were 35 males and 90 females. As the pie chart shows below, there were far more females than males. As a percentage 72% were female and 28% were male.
- In these series, most common cause of surgical jaundice was found to be choledocholithiasis (CBD calculus) 49.6% cases.
- Second most common cause was carcinoma head of pancreas (16.8%). With increasing use of laparoscopic cholecystectomy, benign biliary stricture forms the third common cause of obstructive jaundice.
- Malignancy, including Carcinoma Head of pancreas, Cholangiocarcinoma, Ampullary Carcinoma and Carcinoma Gall bladder contributes 36.8% cases of obstructive jaundice in the series.
- Benign causes forms 63.2% of total cases of Surgical jaundice whereas Malignancy forms remaining 36.8% of cases.

- Most common Benign causes of Surgical Jaundice was Choledocholithiasis. Benign Biliary Stricture was next common.
- In this series, Carcinoma head of Pancreas contributes the most common cause of malignant Surgical Jaundice followed by Cholangiocarcinoma.
- In this series, incidence of CBD stones was Maximum in 31-50 years of age group.
- Malignant cases of Surgical Jaundice were most common in older age group (>50 years of age).

This shows that choledocholithiasis was much more common in females as compared to males.
All patients had Jaundice. pain abdomen was second most common complaint in the series (84% cases). Right hypochondrium is the most common site.

Pruritus, nausea and vomiting, loss of appetite and weight were other common complaints of patients suffering from Surgical jaundice.

Jaundice was present in all 125 cases. Pain abdomen commonly located in Right Hypochondrium is the most common symptoms of CBD calculus followed by nausea and vomiting.

In carcinoma head of Pancreas, most common presentation was loss of appetite and weight. Other malignant causes of Surgical Jaundice were also presented with similar set complaints i.e. loss of weight and appetite and progressively increasing jaundice

All patients had icterus. 78% cases had palpable liver. Lump abdomen was present in 24% cases. It is present mostly in epigastric origin. Gall bladder was palpable in 18% cases. 3.2% cases with ascites.

Clinical detected icterus was present in all cases. Hepatomegaly was present in 44 out of 62 cases in choledocholithiasis. It was present in all 21 cases of carcinoma head of pancreas.

Gall bladder was palpable in 10 cases of choledocholithiasis. Lump abdomen (mostly in epigastric region or right hypochondrium region) was present in 13 cases of choledocholithiasis and 11 cases of carcinoma head of pancreas. Ascites was present in only 2 cases of carcinoma head of pancreas and 3 cases of carcinoma gall bladder.

In this series 53.6% of patients had clay coloured stools indicating complete obstruction to flow of bile.

46.4% of patients in this series had serum bilirubin levels in the range of 1-10 mg/dl.

20.8% of patients presented with serum bilirubin levels more than 20 mg/dl.

In this series, all patients having choledocholithiasis had serum bilirubin levels less than 20mg/dl. Maximum numbers of them lies in the range of 5.1-10(34 out of 62 patients).

Malignancy i.e. carcinoma head of pancreas, Cholangiocarcinoma, Ampullary carcinoma, and carcinoma gall bladder had mostly high serum bilirubin levels (26 had serum bilirubin levels more than 20 mg/dl).

Serum alkaline phosphatase is sensitive indicator of biliary tract pathology. In this series 40% of cases had serum alkaline phosphatase in the range of 1501 to 2001 IU/L.

(Normal range :110-310 IU/L).

31 cases of choledocholithiasis presented with serum ALP level more than 1500 IU/L.

In this series, all 125 cases had undergone USG. 98 cases (78%) had accurate diagnosis.

CT scan was performed in 75 patients out of 125 and it was able to give accurate diagnosis in 68 cases (90.66%).

MRCP and ERCP were mostly used in this series for diagnosing biliary stricture, previously diagnosed by

other modalities of diagnostic tests like USG and CT scan.

ERCP was able to diagnose 91 out of 95 cases of Surgical Jaundice.

Other options available were laparoscopic CBD exploration and stone extraction by PTC.

Out of 21 cases of carcinoma of head of pancreas, curative procedure i.e. Whipples panceartodudenectomy was done only in 8 patients (38%) in remaining 62% cases, it was found to be inoperable palliative procedure in form of double either hepatico jejunostomy or cholecystojejunostomy together with enteroenterostomy done.

Discussion & Conclusion

The most common cause of obstructive jaundice in decreasing order of frequency are:

- Choledocholithiasis 48%
- Carcinoma head of pancreas 20%
- Benign biliary stricture 14% (Includes post cholecystectomy CBD stricture)
- Cholangiocarcinoma 10%
- Ampullary carcinoma 4%
- Carcinoma gall bladder 4%

1. Surgical jaundice occurs more common in females as compared to males. Choledocholithiasis is much more common in females as compared to males but malignant obstructive jaundice had almost equal ratio in both sexes.
2. Commonest age group for obstructive jaundice is 40-60 years. Choledocholithiasis is most common in age group of 30-50 years. Malignancies are more common in 5th and 6th decade of life.
3. Common symptoms in obstructive jaundice are icterus, pain upper abdomen pruritus, nausea and vomiting, loss of appetite and weight.
4. Common clinical signs in obstructive jaundice that are invariably present are icterus, hepatomegaly, palpable gall bladder and abdominal lump. Ascites is rarely present.
5. Obstructive jaundice is characterized by rise in serum bilirubin and serum alkaline phosphatase levels.
6. Serum bilirubin levels in majority of patients of choledocholithiasis are less than 10 mg/dl. Deep progressive jaundice is the characteristic of malignancy and thus serum bilirubin levels more than 10 mg/dl are present in malignancy.
7. Serum alkaline phosphatase levels are in the range of 1500-2000 IU/I for choledocholithiasis whereas malignancy higher levels are expected.
8. USG is the initial imaging technique used for diagnosis obstructive jaundice. It has an overall accuracy of 78% in determining the site and cause of obstruction in obstructive jaundice.
9. CT scan abdomen has a good accuracy in diagnosing carcinoma head of pancreas, Ampullary carcinoma and carcinoma gall bladder. It was poor in diagnosing accurately benign biliary stricture and Cholangiocarcinoma in this series.
10. ERCP is mostly used as therapeutic procedure in this series. It has 94.4% diagnostic accuracy but has a disadvantage of invasiveness.
11. MRCP is an excellent non-invasive diagnostic test with 100% diagnostic accuracy in determining the presence and level of biliary obstruction.
12. USG should be done preliminary investigation in all patients of obstructive jaundice. USG along with serum bilirubin and serum alkaline phosphatase are good indicator of obstructive jaundice. CT scan was good in suspected causes of pancreatic head and peri-ampullary carcinoma. With the invent of

better non-invasive technique like MRCP and CT scan. ERCP is mostly used as therapeutic procedure now days.

13. Most patients suffering from carcinoma head of pancreas present with advanced disease, resulting in low resection rates.
14. With increasing use of laparoscopic cholecystectomies, more and more Casen of benign biliary strictures are reporting following postoperative CBD injury. Roux-en-Y hepatico jejunostomy is the treatment of choice in majority of cases. Goal is to achieve tension free mucosa-to-mucosa duct enteric anastomosis.

References

1. Pal V. Study of Obstructive Jaundice with Special Reference to Etiology. Scholars Journal of Applied Medical Sciences. 2018 Sep; 6(9).
2. Roche Sp, Kobos R. Jaundice in Adult Patient. American Family Physician. 2004 Jan; 69(2).
3. Kuberan K, Vijayalakshmi R, Chandrashekhar G, Saravana A. A Prospective Study on Etiology and Management of Obstructive Jaundice Due To Extrahepatic Biliary Obstruction. Stanley Medical Journal. 2016 Jan; 3(1).
4. Blumgart L.H., Surgery of Liver and Biliary Tract
5. Bailey & Love, Short Practice of Surgery, 25th edition, 2008
6. Boyd, Surgical Pathology
7. Sheila Sherlock, Diseases of Liver and Biliary System
8. Rodney Maingot, Textbook of Abdominal Operations, 11th edition, 2007