

# Incidence of Malignant Obstructive Jaundice - a study of hundred patients at Nishtar Hospital Multan

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The objective of this study is to see the incidence of malignant obstructive jaundice. It is a descriptive study carried out at Nishtar Hospital Multan from January 2000 to January 2002. Total 100 patients with obstructive jaundice were included in study. The patients with benign diseases were excluded. The patients having malignant obstructive jaundice were studied in detail and incidence of malignant obstructive jaundice was noted. The main presenting symptoms were progressive painless jaundice, pruritis, anorexia, weight loss, abdominal pain and mass right upper abdomen. 84 patients (84%) were suffering from malignancy and 16 patients (16%) were suffering from benign diseases. The incidence of various malignancies was CA gall bladder 44 patients (52%), CA Pancreas 26 patients (31%), Cholangiocarcinoma 8(10%) and Hepatoma 6 patients (7%). Incidence of malignancy in obstructive jaundice is 84%, which gradually increases with the increasing age. The most common malignancy responsible for obstructive jaundice in female patients is CA gall bladder (52%) and in male patients is CA head of pancreas (31%).

**Key Words:** Obstructive jaundice, malignancy, CA gall bladder, CA pancreas, CBD, Hepatoma, MRCP, ERCP

Jaundice is the yellow discoloration of the skin and sclera that occurs when bilirubin is elevated in the blood and deposited in the tissues and body fluids. Jaundice, due to the obstruction to the flow of bile is called the obstructive jaundice. Obstruction may be intrahepatic or extrahepatic. Intrahepatic block may be functional like drugs and hepatitis or organic like obstruction of intrahepatic biliary tree. Extrahepatic obstruction constitutes the most important surgical subgroups of cholestatic jaundice, as it is always the result of organic disease. Malignant diseases account for 86% of obstructive jaundice<sup>1</sup>.

Amongst the benign causes, stones, strictures and benign neoplasm are the commonest. Other benign causes being congenital diseases like Roters & Dubin Johnson Syndrome, biliary atresia and liver flukes etc.

Malignant causes include pancreatic malignancy (usually head), periampullary carcinomas, bile duct carcinoma, carcinoma gall bladder involving the common bile duct, liver malignancy and metastatic disease.

In clinical practice, pancreatic cancer is synonymous with pancreatic ductal adenocarcinoma that constitutes 90% of all primary tumors arising from pancreas. Main presentation is with obstructive jaundice, which is painless progressive and accompanied by itching and anorexia.

Periampullary carcinomas are cancers arising at or with in one centimeter of ampulla of Vater<sup>2</sup> and include ampullary carcinoma, duodenal carcinoma and carcinoma of distal common bile duct<sup>3</sup>. Ampullary carcinoma may present with jaundice and other nonspecific symptoms, although weight loss and pain abdomen are less prominent<sup>4</sup>. Carcinoma of distal common bile duct is very common in eastern countries where parasitic infestation is endemic<sup>5</sup>.

Carcinoma of distal common bile duct presents mainly with obstructive jaundice however weight loss is not evident<sup>5</sup>. Duodenal carcinoma presents with anemia due to ulceration of tumor, duodenal obstruction and

obstructive jaundice, although general symptoms may be present<sup>6</sup>.

Hepatocellular carcinoma (primary malignant disease of liver) is common but in Europe secondary deposits in the liver are at least 30 times commoner than primary cancers. Hepatocellular carcinoma is one of the commonest malignancies worldwide. It is 3-4 times more frequent in men than women. This may be due to the higher carriage rate of hepatitis B and C viruses in men<sup>7</sup>.

## Material and methods

This was a descriptive study carried out on 100 patients suffering from obstructive jaundice at Nishtar Hospital Multan.

**Material:** All the patients of both sexes who presented with obstructive jaundice in the surgical out patient department and in the casualty ward of Nishtar Hospital Multan were admitted after history and complete physical examination and with relevant investigations. Some of the patients were shifted from the medical wards after they have been diagnosed to be cases of obstructive jaundice.

**Method:** All the patients were divided into three groups:

**Group I:** In this group complete urine examination for the presence of urobilinogen was done and LFTs were done especially to see the level of alkaline phosphatase. The patients showing the picture of obstructive jaundice were included in-group II. The patients suffering from medical jaundice were excluded from the study.

**Group II:** The abdominal USG was done to see the intrahepatic or extrahepatic duct dilatation. Those patients suffering from primary intrahepatic cholestasis were excluded from the study.

**Group III:** the confirmation of level of obstruction and nature of obstruction was done in this group with the help of following investigations. CT scan of abdomen and chest, HIDA scan if required PTC and ERCP with cytology or biopsy.

**Statistical analysis**

As this is descriptive study only percentages and ratios were calculated and no statistical test was applied.

**Results**

Out of the total 100 patients, 80 patients (80%) presented in OPD, 14 patients (14%) presented in casualty ward and 6 patients (6%) were shifted from medical wards.

Out of 100 patients, 28 patients (28%) were males and 72 (72%) were females. Most of the patients were above 50 years of age and no patient was below 30 years of age (Figure 1). 80 patients (80%) belonged to the poor class, 12 patients (12%) belonged to middle class and 8 patients (8%) belonged to upper middle class. 70 patients (70%) were the resident of rural areas, while 30 patients (30%) were living in urban areas.

Main presenting symptoms in order of frequency were; progressive jaundice in 95% patients, pruritis in 90%, anorexia in 80%, weight loss and lethargy in 60%, abdominal pain in 55%, mass right upper abdomen in 50%, vomiting in 40%, fever and shivering in 30%, Ascites in 25% and haemetemesis in 10% patients. All the patients were anemic with Hb ranged from 7-11 mg/dl with increased ESR.

Alkaline phosphatase and bilirubin were raised in all the patients. It was seen that the patient with hepatoma and carcinoma gall bladder showed the increased level of bilirubin which was relatively lower (4-8 mg/dl) from the other patients with carcinoma pancreas and cholangiocarcinoma with bilirubin level of 10-20 mg/dl.

Ultrasonography was successful in 88 (88%) patients to find out the level of obstruction. All the patients having suspicion of malignancy underwent computed tomography of abdomen and chest to find out the cause and site of obstruction. ERCP was successful in 75% patients and biopsy was possible in 50% of patients. Carcinoma of gall bladder was present in 52%, carcinoma of pancreas in 31%, cholangiocarcinoma in 10% and hepatoma in 7% of patients. (Table 1).

Table 1. Final diagnosis of various benign and malignant conditions of obstructive jaundice in 100 patients.

Disease	Male	Female	Total	%
CA Pancreas	18	8	26	26
CA Gall Bladder	4	40	44	44
Cholangio CA	2	6	8	8
Hepatoma	4	2	6	6
Benign Stricture	0	6	6	6
Stone in CBD	0	10	10	10
Totals	28	72	100	100

Out of 84 malignant patients, 44 patients (52%) were suffering from the carcinoma of gall bladder. Out of these 44 patients, 40 patients were females and only 4 were males with female to male ratio of 10:1. All the male patients were above 50. 32 female patients were above 50 years of age rest were between 30-50 years of age. All the

female patients of CA gall bladder were suffering from the gallstones.

Total patients suffering from CA pancreas were 26 (31%). 18 patients (69%) were male and 8 patients (29%) were females. The male to female ratio was 2.25:1. All the 26 patients suffering from CA pancreas were above 50 years of age. Out of these 26 patients, 18 were smokers.

Out of 84 malignant patients, 8(10%) were suffering from cholangiocarcinoma with 2 males and 6 females. Out of these 8 patients 2 were suffering from Klatskin tumor, 2 patients were suffering from the tumor of right hepatic duct and 4 patients from cholangiocarcinoma of the CBD

Out of 84 malignant patients, 6 patients (7%) were suffering from the hepatoma (primary tumor of liver) with 4 male and 2 female patients. All patients were above 60 years. All the patients showed increased level of alpha-fetoprotein, lactic dehydrogenase and beta HCG. Neither of patients were having periampullary carcinomas nor metastatic disease.

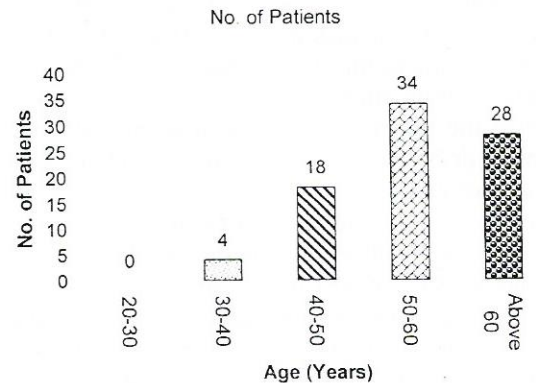


Fig. 1. Age distribution in malignant patients (n=84)

**Discussion**

Obstructive jaundice is commonest condition affecting the hepatobiliary system all over the world. The presentation is quite variable ranging from non-specific symptoms like anorexia, weight loss, lethargy, vague abdominal pain to painless progressive jaundice. Like in the rest of world, obstructive jaundice is quite common in our country.

The area of present study included South East Punjab and adjacent parts of Sindh, NWFP and Baluchistan. Due to low literacy rate and poor health facilities, the patients with malignant obstructive jaundice present very late. They are initially treated by local quakes.

In present study the incidence of malignancy in obstructive jaundice is 84% which is almost equal to the study conducted by Bjerkeset OA et al<sup>8</sup>. In their study incidence of malignancy in obstructive jaundice was 86%. Bajjal SS et al<sup>9</sup> conducted another study over 41 patients with obstructive jaundice. 37 patients (90%) were having malignant diseases and 4(10%) were suffering from benign diseases.

In present study 84 patients (84%) were suffering from malignancy. Out of 84 malignant patients, the incidence of CA gall bladder was 52%, CA pancreas 31%, Cholangiocarcinoma 10% and Hepatoma 7%.

A study conducted by Kanasaki S et al<sup>10</sup> upon 18 patients with malignant biliary obstruction showed the incidence of CA gall bladder 22%, CA pancreas 33%, Cholangiocarcinoma 28%, Metastatic lymph node 11% and Tumor of papilla 5%. From comparison point of view, the carcinoma of pancreas has about same incidence but there is great difference in the incidence of CA gall bladder. This is probably due to the more prevalence of gallstones in our set up, which is responsible for CA gall bladder.

Another study conducted by Sharma MP, Ahuja V<sup>11</sup> over 429 patients showed the malignant obstructive jaundice was much more common as compare to benign causes (75.3% VS 24.7%) with carcinoma gall bladder 28.7%, carcinoma pancreas 26.5%, choledocholithiasis 12.4%, cholangiocarcinoma 10.8%, benign strictures 10.8% and ampullary carcinoma 9.8%.

Again there is significant difference in the incidence of malignant obstructive jaundice between the two studies. The reason of high incidence of carcinoma gall bladder may be due to increase prevalence of gall stoned in our society. Main presenting symptoms in order of frequency in present study were; progressive jaundice 95% patients, the pruritis 90%, anorexia 80%, weight loss and lethargy 60%, abdominal pain 55%, mass right upper abdomen 50%, vomiting 40%, fever and shivering 30%, ascites 25% and haemetemesis 10%.

Ma. Cecilia R. et al<sup>12</sup> published their study on periampullary carcinomas. Jaundice was present 92%, Highly-colored urine in 52%, Abdominal pain in 48%, Pruritus in 48%, Weight loss in 32%, Anorexia in 32%, Acholic stools in 32%, Fever in 24%, Melena in 8%, RUQ mass in 8%, RUQ tenderness in 8% and Body malaise was present in 4% of patients. The USG was successful in establishing level of obstruction in 88 patients (88%). Sharma MP<sup>11</sup> mentioned that sensitivity of the ultrasound to correctly diagnose and establish the site of etiology of obstruction was 94% with a specificity of 96%. As ultrasound is highly operator dependent and its sensitivity mostly depends upon the experience and ability of its operator this may be reason for the difference between two studies.

In present study ERCP was successful in 75% patients and biopsy was successful in 50% patients. In literature, ERCP was successful in about 80% patients<sup>13,14</sup>.

### Conclusion

The present study concludes and suggests:

1. The most common cause of obstructive jaundice is malignancy and the most common cause of malignant obstructive jaundice in male is

carcinoma of the head of pancreas and in female is CA gall bladder.

2. In our study most of the patients are in the 5<sup>th</sup> & 6<sup>th</sup> decade of life suggesting later age involvement.
3. Cholecystitis and cholelithiasis are the most important predisposing factors for CA gall bladder.
4. Painless progressive jaundice with pruritis is the most common presentation of obstructive jaundice.
5. Ultrasonography is helpful in most of the patients to determine the level of obstruction.
6. CT scan is sensitive for the detection of secondaries in the lungs, liver and lymph nodes.
7. We should also try to improve the availability of health facilities for rural and far away areas. Moreover, health education should be given to the general public through mass media so that diseases are diagnosed at an earlier stage.

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