Management Of Obstructive Jaundice: Experience In A North Central Nigerian Hospital.

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Obstructive jaundice (OJ) occurs as a result of blockage in the pathway between the site of bile conjugation in the liver cells and bile entry into the duodenum via the ampulla. Early diagnosis is important to prevent secondary liver cirrhosis from prolonged cholestasis.

After due ethical considerations, information from patients with obstructive jaundice who presented into our service from December 2013 to April 2018 were analysed using SPSS version 23.

Twenty-five patients were managed for obstructive jaundice within the time period stated, with a mean age of 58±14years with a M:F ratio of 1:2. Cancer of the head of the pancreas accounted for 61% of the entire cause of OJ while chronic pancreatitis was the commonest benign cause in this series, accounting for 50% of all benign cases. Yellowness of the eyes and abdominal pain were the commonest presentation in 84% and 80% of the patients respectively. Overall 30-day post op mortality was 60% with ascending cholangitis being the cause in 78% of cases

Obstructive jaundice poses a big problem for the general surgeon as he needs to effectively manage the primary cause of the OJ along with the problems of cholestasis. OJ remains a huge burden in this setting and it is associated with a high morbidity and mortality. Even though 15 out of the 25 patients underwent surgery, none of the patients with malignant etiology had resection of their primary tumour as they all presented with unresectable disease. The 30-day mortality post laparotomy at 60% is about four times that obtained in the developed world. Less invasive methods of biliary drainage should be advocated to improve outcome of these patients. Surgery remains the best modality of treatment of OJ. The high rate of post laparotomy mortality suggests that an alternate means of biliary bypass in patients with advanced unresectable disease, other than routine laparotomy, should be encouraged.

Key Words: Obstructive Jaundice, Management, Nigeria, Pancreatic Cancer, Chronic Pancreatitis

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Introduction

Obstructive jaundice is defined as a condition occurring due to a block in the pathway between the site of conjugation of bile in liver cells and the entry of bile into the duodenum through the ampulla.[1] The need for early diagnosis and intervention is key to preventing permanent damage to the liver (secondary liver cirrhosis). Obstructive jaundice can be caused by different pathologies which may be intrahepatic or extra hepatic, benign or malignant and varies from centre to centre.[2,3]

Obstructive jaundice is not a definitive diagnosis on its own and the onus lies on the physician to determine the primary cause using extensive clinical evaluation as well as investigative modalities. Biochemical and radiologic investigations are key adjuncts to clinical review to assist in making a diagnosis, to assess the stage and extent of the disease and to see fitness for intervention. The abdominal ultrasound is a valuable tool in the initial evaluation of patients with obstructive jaundice. It is widely available and affordable in our setting, however, it is usually inadequate in estimating the extent of disease and also in predicting resectability. The lack of sophisticated diagnostic modalities such as ERCP, MRCP and helical CT, as well as lack of support systems and technical expertise means that patients have outcomes that are even poor for a disease with such high morbidity and mortality. Surgery in jaundiced patients is associated an increased rate of wound problems, sepsis from cholangitis, bleeding abnormalities, hypotension, gastrointestinal bleeding, anastomotic leakage, abdominal abscess and liver or renal failure.[4-6] This study seeks to show an understanding of the characteristics, pattern of presentation, management and treatment outcomes of patients with obstructive jaundice at the University of Ilorin Teaching hospital.

Method

After due ethical consideration, records of all patients who came into the surgical service with features of obstructive jaundice were retrieved and analyzed from December 2013 to April 2018.

Information retrieved included sociodemographic data, duration of complaint before presentation, results of clotting profile and liver function tests, ultrasound and abdominal computed tomography reports, intraoperative findings and procedure, histologic diagnosis and post-operative

outcome.
Patients with final diagnosis other than obstructive jaundice were excluded as well as patients with irretrievable or absent biochemical and radiological investigations. The results were analyzed using SPSS version 23.

Results

A total of 25 patients were analyzed. The mean age of patients was 58±14years (34-85years). The largest age group was between 55 and 64 accounting for up to 40% of all patients in this series (Figure 1). The male to female ratio was 1:2.

Yellowness of the eyes and abdominal pain were the commonest presentation in 84% and 80% of the patients respectively. Other associated presentations include, abdominal mass (40%), ascending cholangitis (20%), and gastric outlet obstruction (20%). The duration between onset of symptoms and presentation was 11±8weeks (range = 3 - 30weeks)

The commonest cause of obstructive jaundice in our series was cancer head of the pancreas (60%). (Table 1)

The mean diameter of the CBD was 18±6.0 mm while the mean INR was 1.5±0.4 (1.10 - 2.30).

Distribution among patients with child B and C is equal at 48% each. Ninety-six percent of our patients presented with Child-Pugh B and C disease with only one (4%) presenting with Child A disease. (Figure 2) Only 60% of patients presenting with obstructive jaundice were operated within the time period. The procedures done listed in Table 2.

About 10 (83%) of patients with child B got operated on while just 4 (33%) patients with child C were operated p = 0.025 (p <0.05). Table 3. The 30-day mortality of the 10 patients in the Child B category who had surgery was 40% (4 patients), while 3 of the 4 patients who had surgery in the Child C category died (75%). The commonest cause of death in patients was ascending cholangitis (78%). Other causes are listed in Table 4.

Discussion

Obstructive jaundice poses a major problem for the general surgeon, as diagnosis of the primary cause is not usually straightforward, and the problems associated with prolonged cholestasis and poor post-operative outcome in this group of patients. In this study, the mean age of patients with obstructive jaundice was 56±14 years with the commonest age group being 55-64years. This is could be accounted for by the large number of patients with obstructive jaundice from malignant cancer head of pancreas and is in keeping with literature that most of these patients present in the sixth and seventh decade of life.[7,8] The male to female ratio was 1:2. A similar female preponderance was noted by Mabula et al in Tanzania and Chalya in India, but in contrast to Kurian.[9-11] Several explanations have been made for the why benign and malignant causes of obstructive jaundice are found to be commoner in females. The female

Table 1: SHOWING THE VARIOUS DIAGNOSIS AND THEIR PERCENTAGES

Diagnosis	Frequency	Percent
Cancer head of pancreas	15	60.0
Chronic pancreatitis	3	12.0
Cholangiocarcinoma	2	8.0
Gall bladder cancer	2	8.0
Gall stones	2	8.0
CBD injury	1	4.0
Total	25	100.0

Table 3 Showing the Relationship Between Child-Pugh Class and Surgery

		Surgery		
		Yes	No	Total
Child Pugh	A	1	0	1
	B	10	2	12
	C	4	8	12
Total		15	10	25

Table 2, Showing the Procedures Done for Patients with Obstructive Jaundice

Procedure	Frequency	Valid Percent
Gastrojejunostomy + Cholecystojejunostomy	9	60.0
Cholecystectomy + CBD exploration	2	13.3
Gastrojejunostomy alone	2	13.3
Laparotomy and biopsy alone	1	6.7
Laparotomy + drainage	1	6.7
Total	15	100.0

Table 4 Shows the Cause of Mortality of Patients in the Series.

Cause of death	Frequency	Valid Percent
Ascending Cholangitis	7	78.0
Brain metastases	1	11.0
Cardiac arrest	1	11.0
Total	9	100.0

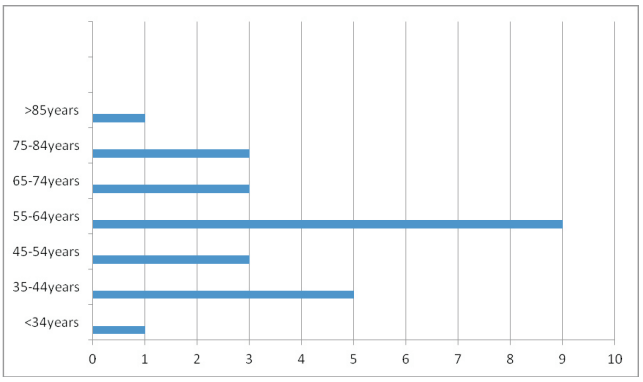

Figure 1 showing the various age groups of the patients in the study.

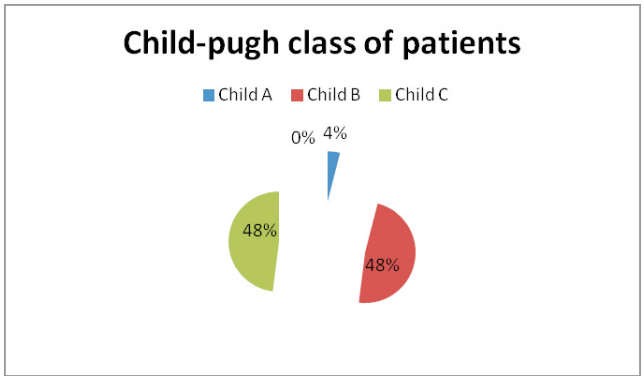

Figure 2. showing the relative percentages of the various Child-pugh classes

hormones cause increased cholesterol supersaturation in the bile, leading to a higher rate of gallstones which are noted predisposition to these conditions leading to biliary obstruction and even gall bladder cancer.[12-14]

In this present study, the commonest cause of obstructive jaundice was cancer head of the pancreas which is in agreement with Lawal et al. as well as Rahman et al. Chronic pancreatitis was the commonest benign cause of obstructive jaundice in this review in contrast to the above local studies that point to choledocholithiasis.[15,16]

Ultrasonography has a high specific and sensitive rate and should be the first and initial radiologic modality to be carried out in a patient with obstructive jaundice.[18] Obstructive jaundice occasionally may be clinically and biochemically indistinguishable from cholestatic jaundice caused by hepatocellular disease. The management of both these conditions being radically different. The abdominal CT as well as the MRCP are good tools in this regard.[19]

The commonest procedure done was a triple bypass and is similar to a study done by Selvaskaran et al.[20] The mean duration from onset of symptoms till presentation was about 11weeks (3 – 30 weeks), with the commonest presenting symptom being abdominal pain and jaundice in 80% and 84% respectively. This is similar to the work done by Gupta et al. where they reported a 92% rate of jaundice and 71% incidence of abdominal pain.[21] The mean diameter of the CBD as measured by ultrasound scan was 18mm (range = 8 - 32mm). The patient with the highest CBD diameter had a 3cm gall stone that was extracted after cholecystectomy and CBD exploration. This average is 4mm higher than that reported by Irabor in Ibadan. [17]

Of the 25 patients reviewed for obstructive jaundice, 76% had malignant etiology with 24% due to benign processes this is similar to the report of Selvaskaran et al. The most common cause of benign etiology appeared to be chronic pancreatitis which accounted for 50% followed by choledocholithiasis (33%) and CBD injury (17%). Patients with benign causes of obstructive jaundice appear to be younger than patients with malignant causes (mean age = 46.8years Vs 61.2years. $p < 0.05$). Rahman et al also noted a 71% malignant cause of obstructive jaundice but reported gallstones as the commonest benign cause of obstructive jaundice.[16] All patients with chronic pancreatitis had triple bypass, the patient with choledocholithiasis had cholecystectomy with CBD exploration and T-tube placement. The patient with CBD injury post cholecystectomy had laparotomy and drainage with complete resolution in 8weeks. The commonest malignant etiology was by far cancer head of the pancreas which was responsible for 60% of the overall incidence of obstructive jaundice and 71% of the malignant etiology. Cholangiocarcinoma and gallbladder cancer complete the triad of malignant causes in the series. All patients who presented with malignant etiologies had advanced disease with about 47% presenting with obvious liver metastases at laparotomy. They all had bypass procedures and/or biopsy with no resection of the primary tumour done. Pancreatic tumors run an aggressive course with early invasion to the adjacent vessels and organs. In the developed world, patient who have unresectable pancreatic tumors at laparotomy range between 80-90%.[22,23]

The commonest cause of death in this series was sepsis from ascending cholangitis. Antibiotics alone are unlikely to be effective in the setting of biliary stasis until adequate biliary drainage has been done. Endoscopic biliary stenting is the method of choice in patients with ascending cholangitis to relieve biliary stasis.[6] These stents may be for preoperative biliary drainage to improve clinical outlook before surgery, or a form of palliation in patients with advanced unresectable tumours.[27,28] Unfortunately, this is not widely in use in this region and thus, patients with poor preoperative status are subjected to the trauma of laparotomy with dismal outcomes. The mortality rate post laparotomy for Child-Pugh B and C was 40 and 75% respectively which is similar to the study done by Friedman et al.[26] Long term follow up of patients was limited by default from clinic appointments. Commonest cause of death in this series was sepsis following ascending cholangitis (78%).

There were 9 mortalities in the 15 patients who had surgery of obstructive jaundice -(60%). This is about four times the mortality rate quoted by Sanei et al.[24] The high morbidity and mortality rates in this study could be attributed to delayed presentation of disease coupled with the diagnostic and therapeutic challenges (e.g. CT scan, PTC, ERCP and MRCP) seen in most developing countries. Subjecting these patients, most of them who present at Child-Pugh class B and C to the major stress of a laparotomy may tilt them to having worse outcomes. This can be reduced in part by the use of less invasive methods of relieving biliary stasis such as stenting.

Conclusion

Obstructive jaundice is commoner in females, with cancer head of pancreas being the most frequent etiology. Although surgery remains the best modality of treatment of obstructive jaundice, patients here present late and are offered laparotomy accompanied with the less desirable palliative bypasses which do not effect cure. The high rate of post laparotomy morbidity and mortality suggests that the use of less invasive methods of biliary decompression should be encouraged so as to have similar outcomes as those obtained in more developed settings.

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