

## THE ETIOLOGICAL SPECTRUM OF OBSTRUCTIVE JAUNDICE IN MARDAN MEDICAL COMPLEX

Asif Imran, Tamjeed Gul, Muhammad Akram, Ajmal Afridi, Sana Sahar

<sup>1 to 5</sup> Department of Surgical A Ward, Mardan Medical Complex, Mardan, KP, Pakistan

### ABSTRACT

**Objective:** To evaluate the causes of obstructive jaundice in our set-up.

**Study Design:** Prospective Cross-sectional study.

**Setting and Duration:** Surgical Department, Mardan Medical Complex, from April 2016 to March 2018

**Methodology:** Using a non-probability sampling approach, 54 cases were enrolled. Individuals having a clinical diagnosis of obstructive jaundice, regardless of age or gender, were progressively recruited in the research. Every instance had a comprehensive investigation, and the reason for each was found. The study's bias and confounders were managed by closely adhering to the exclusion criteria. Data were gathered using a standardized proforma, and SPSS version 23 was used for analysis.

**Results:** In the aforementioned investigation, a total of 54 individuals with obstructive jaundice were seen. The patients' ages ranged from 28 to 70 years old, with a mean age of  $51.63 \pm 10.54$  years. 37% of people were men and 63% were women. In 27 (50%), 21 (38.9%), and 6 (11.1%) of the patients, choledocholithiasis and biliary strictures were the causes of obstructive jaundice. Malignant reasons were more prevalent in those over 50, whereas benign causes were more common in those under 50.

**Conclusion:** In our configuration, choledocholithiasis and common bile duct strictures were the most prevalent malignant and benign causes of obstructive jaundice.

**Keywords:** Obstructive jaundice, Choledocholithiasis, Carcinoma head of pancreas.

### INTRODUCTION

Jaundice is a significant clinical entity whose etiology may lead to a broad range of differential diagnoses, each with a varied prognosis. Any duct obstruction that transports bile from the liver to the gall bladder and ultimately to the small intestine may result in obstructive jaundice, a frequent surgical issue<sup>1</sup>. It is among the difficult disorders that general surgeons treat. It greatly raises morbidity and fatality rates<sup>2</sup>. Given the elevated morbidity and death rates associated with obstructive jaundice, it is imperative to promptly diagnose the un-

derlying source of obstruction, particularly in instances of malignancy when resection is limited to stages<sup>1-4</sup>. Numerous illnesses, both benign and malignant, may result in jaundice owing to biliary obstruction<sup>5</sup>. It has been found that the prevalent aetiologies of obstructive jaundice differ across centers and between individuals<sup>5, 6</sup>. The most frequent causes of obstructive jaundice are cancer of the pancreatic head or a stone in the common bile duct. Less frequent causes include bile duct strictures, sclerosing cholangitis, pancreatic pseudocyst, chronic pancreatitis, and bile duct parasites.

The diagnosis of obstructive jaundice is seldom conclusive, and it is crucial to conduct an early study to determine the exact etiology since untreated obstruction may lead to pathological alterations, such as secondary biliary cirrhosis. The great majority of diagnostic tests are available to identify and determine the cause of postoperative obstructive jaundice<sup>4,7</sup>. The gold standard examination for obstructive jaundice investigations is ultrasonography<sup>4-11</sup>. It provides hints for more research, such as CT scanning, MRCP (magnetic resonance cholangiopancreatography), ERCP (endoscopic

#### Correspondence: Asif Imran

Senior Registrar Department of Surgery (Ward A), Bacha Khan Medical College Mardan, Pakistan

Email: dr.asifimran@gmail.com

Cell: 0333-5315524

Date Received: April-18-2021

Date Accepted: May-22-2021

**Citations :** Asif Imran, Tamjeed Gul, Muhammad Akram, Ajmal Afridi, & Sana Sahar. (2021). THE ETIOLOGICAL SPECTRUM OF OBSTRUCTIVE JAUNDICE IN MARDAN MEDICAL COMPLEX: Original Article. Journal of Bacha Khan Medical College, 2(02), Page No. 123-126. <https://doi.org/10.69830/jbkmc.v2i02.42>

retrograde cholangiopancreatography), and PTC (percutaneous cholangiopancreatography).<sup>7-10</sup>

General surgeons working in low-resource nations have difficulties in diagnosing and treating obstructive jaundice<sup>2,12</sup>. Patients who are jaundiced before surgery have an increased risk of problems afterward<sup>13,14</sup>. The etiology of the blockage determines the mortality and morbidity of biliary obstruction. Hence, it is important to evaluate any variables that may affect these outcomes in each society's patients with obstructive jaundice<sup>2,12</sup>. Despite recent advancements in preoperative diagnosis and postoperative management, obstructive jaundice has been shown to be linked with considerable morbidity and mortality<sup>15, 17</sup>. Improved survival will result from a greater understanding of the causes of these patients' elevated morbidity and death, which will better direct appropriate care<sup>17</sup>.

Therefore, our goal at Mardan Medical Complex was to investigate the range of aetiologies associated with obstructive jaundice in this age of enhanced imaging.

**MATERIAL AND METHODS**

From April 2016 to March 2018, prospective research was carried out at the Mardan Medical Complex's Surgical Department. After providing informed permission, a total of 54 consecutive patients from all genders and all age groups who presented via the outpatient department (OPD) with symptoms and signs indicative of obstructive jaundice were recorded in this research. The research excluded patients who were diagnosed with medical jaundice.

During the research, these patients were admitted to the Mardan Medical Complex's surgical department. Every patient had a thorough medical history, a physical examination, and laboratory testing, which included liver function tests to measure blood alkaline phosphatase and bilirubin levels. Additional laboratory tests included albumin, serum creatinine, prothrombin time, packed red blood cell volume, and WBC count. All patients had diagnostic imaging using abdominal Ultrasound to check for abnormalities in the common bile duct, intra- and extra-hepatic biliary channels, and the presence of any abdominal masses or causative factors such as tumors, gallstones, lymph nodes, worms, or lymph nodes. It provided us with hints for more research, such as magnetic resonance cholangiopancreatography (MRCP) and CT scanning.

Every piece of information was documented using a common performance. The study's bias and confounders were managed by closely adhering to the exclusion criteria. The patient demographics and obstructive jaundice etiology were among the information gathered. Version 23 of the SPSS computer program was used to analyze the data. Frequencies were computed for categorical data and mean and standard deviation for continuous variables.

**RESULTS**

In the investigation above, a total of 54 individuals with obstructive jaundice were seen. The patients' ages ranged from 28 to 70 years old, with a mean age of 51.63 ± 10.54 years. With a 2:1 male-to-female ratio, there were 63% females and 37% men. Table 1 lists the causes of obstructive jaundice in patients: choledocholithiasis in 38.9%, biliary strictures in 11.1%, and mass head of pancreas in 50% of cases. Table 2 indicates that malignant reasons were more prevalent in those over 50, whereas benign causes were more common in those under 50.

**Table 1: Causes of Obstructive Jaundice.**

Cause	Number of patients	Percentage (%)
Mass head of pancreas	27	50
Choledocholithiasis	21	38.9
CBD stricture	6	11.1
Total	54	100

**Table 2: Age Versus Cause of Obstructive Jaundice.**

Age (years)	Benign cause	Malignant cause
< 50	21	1
>50	6	26
Total	27	27

**DISCUSSION**

General surgeons have difficulties in diagnosing and treating obstructive jaundice, which also substantially raises morbidity and death rates. This research aimed to characterize the Mardan Medical Complex's obstructive jaundice etiological spectrum.

In contrast to Bekele et al. (2012) in Ethiopia, who identified choledocholithiasis as the most prevalent

cause of obstructive jaundice, the majority of patients in our research had malignant obstructive jaundice, which was also seen in other studies<sup>18,19</sup>. The most frequent cause of malignant obstructive jaundice (50%) in this research was the mass head of the pancreas, while the most common benign cause (38.9%) was choledocholithiasis. Other people have also made similar observations<sup>8,18,19</sup>. According to Sharm & Ahuja<sup>4</sup>, the most typical cause of malignant obstructive jaundice is gall bladder cancer. Research conducted in Yemen and Saudi Arabia revealed that *Ascariases lumbricoides* are often linked to biliary system diseases that cause obstruction<sup>20</sup>. These findings show that the etiological range varies between centers.

This study indicated that females were more likely than men to have both benign and malignant obstructive jaundice, which is consistent with the findings of previous researchers<sup>1,4,8,18</sup>. Due to the high incidence of gallstones in them, which is thought to be a risk factor for several benign and malignant disorders causing biliary obstruction, there is a majority of female cases with both benign and malignant obstructive jaundice

21–23.

The majority of patients in our research who had benign obstructive jaundice had younger ages, while those with malignant etiology had older ages. Others<sup>6,8,18,19</sup> have also reported on the occurrence of malignant obstructive jaundice in older age groups of patients.

The delayed onset of the illness and the absence of contemporary diagnostic and treatment facilities seen in poor nations are blamed for the high rates of morbidity and death associated with obstructive jaundice. In order to determine the exact etiology of obstructive jaundice, a clinical diagnosis of this condition must be made. A better result will come from a multidisciplinary approach including the doctor, radiologist, endoscopist, and interventional radiologist.

## CONCLUSION

In our environment, obstructive jaundice is a prevalent surgical issue that presents diagnostic and treatment hurdles. Females are more likely to experience it, and malignant reasons are more frequent.

Younger people often have benign jaundice, but older ones tend to have malignant reasons. The most frequent malignant cause of jaundice is pancreatic cancer, whereas the most common benign cause is stones in the bile duct.

## REFERENCES

1. Mohamed S, Syed AI. Management of Obstructive Jaundice: Experience in a tertiary care surgical unit. *Pakistan Journal of Surgery*. 2007;23:23–5.
2. Ahmad I, Jan AU, Ahmad R. Obstructive Jaundice. *J Postgrad Med Inst*. 2001;15:194–8.
3. Briggs CD, Peterson M. Investigation and management of obstructive jaundice. *Surgery*. 2007;25:74–80.
4. Sharma MP, Ahuja V. Aetiological spectrum of Obstructive Jaundice and the diagnostic ability of ultrasonography: A clinician's perspective. *Trop Gastroenterol*. 1999;20:167–9.
5. Roche SP, Kobos R. Jaundice in the adult patient. *American Family Physician*. 2004;69:299–304.
6. Mehrdad M, Seyed AM, Mohammad Taghi MS. Obstructive jaundice in Iran: factors affecting early outcome. *Hepatobiliary Pancreat Dis Int*. 2008;7:516–9.
7. Briggs CD, Peterson M. Investigation and management of obstructive jaundice. *Surgery*. 2007;25:74–80.
8. Khurram S, Qasim A, Shirin M, Aiza J, Aisha E, Sarmad L, Asif ZM. Evaluation of the aetiological spectrum of obstructive jaundice. *J Ayub Med Coll Abbottabad*. 2008;20:62–6.
9. Ghaffar A, Buledi GQ, Imran M. Role of imaging in obstructive jaundice. *J Surg Pakistan*. 2004;9:24–6.
10. Khurram M, Durrani AA, Hasan Z, Butt AUA, Ashfaq S. Endoscopic retrograde cholangiopancreatographic evaluation of patients with obstructive jaundice. *J Coll Physicians Surg Pak*. 2003;13:325–8.
11. Admassie D, H/Yesus A, Denke A. Validity of ultrasonography in diagnosing obstructive jaundice. *East Afr Med J*. 2005;82:379–81.
12. Bekele Z, Yifru A. Obstructive jaundice in adult Ethiopians in a referral hospital. *Ethiop Med J*. 2000;38:267–75.
13. Hussain SMA, Fatima T. Operative Mortality and Morbidity of Obstructive Jaundice. *Ann Abbasi Shaheed Hosp Kar Med Dent Coll*. 2000;5:211–4.
14. Uslu A, Narta A, Colak T, Aykas A, Yuzbasioglu MF, Hidir K. Predictors of mortality and morbidity in acute obstructive jaundice: implication of preventive measures. *Hepatogastroenterology*. 2007;54:1331–4.

15. Pitiakoudis M, Mimidis K, Tsaroucha AK, Papadopoulos V, Karaviannakis A, Simopoulos C. Predictive value of risk factors in patients with obstructive jaundice. *J Int Med Res.* 2004;32:633–8.
16. Nakayama T, Ikeda A, Okuda K. Percutaneous transhepatic drainage of the biliary tract Technique and results in 104 cases. *Gastroenterology.* 1978;74:554–9.
17. Blackwater JA, Lawton RL, Tidrick RT. Bypass operation for neoplastic biliary tract obstruction. *Am J Surg.* 1965;109:100–5. doi: 10.1016/S0002-9610(65)801106.
18. Syed N, Mohammad SA, Umair UI, Shafiq UR. The etiological spectrum of obstructive jaundice. *Medical channel.* 2010;16:299–301.
19. Lawal D, Oluwole S, Makanjuola D, Adekunle M. Diagnosis, management and prognosis of obstructive jaundice in Ile-Ife, Nigeria. *West Afr J Med.* 1998;17:255–60.
20. Absi MA, Qais AM, Katta MA. Biliary Ascariases: the value of Ultrasound in the diagnosis and management. *Ann Saudi Med.* 2007;27:161–163. doi: 10.4103/0256-4947.51511.
21. Channa NA, Khand FD, Bhangar MI, Leghari MH. Surgical incidence of Cholelithiasis in Hyderabad and adjoining areas (Pakistan) *Pak J Med Sci.* 2004;20:13–7.
22. Zarin M, Ahmed M, Gohar A, Waheed D, Khurram S. Incidence of gall stones in carcinoma Gall Bladder patients. *Pak J Surg.* 2005;21:19–22.
23. Ullah N, Gondal SK, Shahbaz RA. Carcinoma Gall Bladder; an incidence study at Services Hospital Lahore. *Pakistan Postgrad Med J.* 2000;11:156–

**Disclaimer:** Nil

**Conflict of Interest:** There is no conflict of interest.

**Funding Disclosure:** Nil

**Authors Contribution**

**Concept & Design of Study:** Asif Imran

**Data Analysis:** Tamjeed Gul, Muhammad Akram

**Critical Review:** Ajmal Afridi, Sana Sahar

**Final Approval of version:** Asif Imran



**Open Access:** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/>.  
© The Author(s) 2021