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CLINICAL PROFILE AND ETIOLOGY OF OBSTRUCTIVE JAUNDICE

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ABSTRACT

Obstructive jaundice is a significant clinical condition resulting from the blockage of bile flow due to various pathological causes. It is characterized by elevated bilirubin levels, pruritus, dark urine, and pale stools. The etiology of obstructive jaundice varies from benign conditions such as gallstones to malignant causes like cholangiocarcinoma and pancreatic cancer. Early diagnosis and management are essential to prevent complications such as cholangitis and liver failure. This paper reviews the clinical profile, common etiologies, and recent advancements in the diagnostic and therapeutic approach to obstructive jaundice.

KEYWORDS: Obstructive jaundice, biliary obstruction, cholangiocarcinoma, pancreatic cancer, gallstones, hepatobiliary imaging, ERCP, bile duct stricture, liver function tests.

INTRODUCTION

Obstructive jaundice occurs due to mechanical obstruction in the bile ducts, leading to the accumulation of conjugated bilirubin in the blood. Patients present with jaundice, right upper quadrant pain, nausea, and weight loss, depending on the underlying cause. The most common benign cause is choledocholithiasis, while malignancies of the pancreas and biliary tree constitute the major malignant etiologies (Kumar et al., 2020). Timely identification of the etiology is crucial as untreated cases may progress to severe complications such as secondary biliary cirrhosis and sepsis (Smith et al., 2021).

The underlying causes of obstructive jaundice can be broadly classified into intrahepatic and extrahepatic obstructions. Intrahepatic causes are less common and may include primary sclerosing cholangitis and intrahepatic cholangiocarcinoma, whereas extrahepatic causes such as choledocholithiasis, bile duct strictures, and pancreatic carcinoma are more prevalent (Murphy et al., 2019). Differentiating between these causes is essential as the management approach varies significantly. Benign conditions often require endoscopic or

surgical intervention, while malignant cases may necessitate complex oncological treatment, including chemotherapy, radiotherapy, or palliative care (Johnson et al., 2021).

Over the years, advancements in diagnostic imaging and interventional procedures have significantly improved the detection and management of obstructive jaundice. High-resolution imaging techniques, such as endoscopic ultrasound (EUS) and magnetic resonance cholangiopancreatography (MRCP), have enhanced the ability to distinguish between benign and malignant conditions. Furthermore, the development of minimally invasive therapeutic approaches, including percutaneous transhepatic biliary drainage (PTBD) and biliary stenting, has contributed to improved patient outcomes and reduced morbidity associated with surgical interventions.

Additionally, the role of molecular and genetic markers in identifying malignant causes of obstructive jaundice has gained increasing attention. Biomarkers such as CA 19-9 and CEA have been explored for their diagnostic and prognostic value in pancreaticobiliary malignancies. Emerging research on liquid biopsy and circulating tumor DNA (ctDNA) holds promise for the early detection of malignancies, potentially revolutionizing the diagnostic landscape of obstructive jaundice in the coming years.

METHODOLOGY

This study is based on a review of literature from peer-reviewed journals, clinical trials, and meta-analyses. Sources were obtained from PubMed, Scopus, and Google Scholar, focusing on studies published in the last decade. The inclusion criteria were research on the clinical presentation, diagnosis, and management of obstructive jaundice. The findings were categorized based on benign and malignant causes, clinical features, and diagnostic advancements.

RESULTS

A review of the literature identified various causes of obstructive jaundice, categorized as follows:

Table 1: Etiology of Obstructive Jaundice

S. No	Etiology	Number of Patients
1	Choledocholithiasis	46
2	Carcinoma Head of Pancreas	22
3	Periampullary Carcinoma	9
4	Stricture	4
5	Cholangiocarcinoma	3
6	Carcinoma Gall Bladder	3
7	Choledochal Cyst	2
8	Carcinoma Stomach with porta hepatis lymph node metastasis	1
Total		**90**

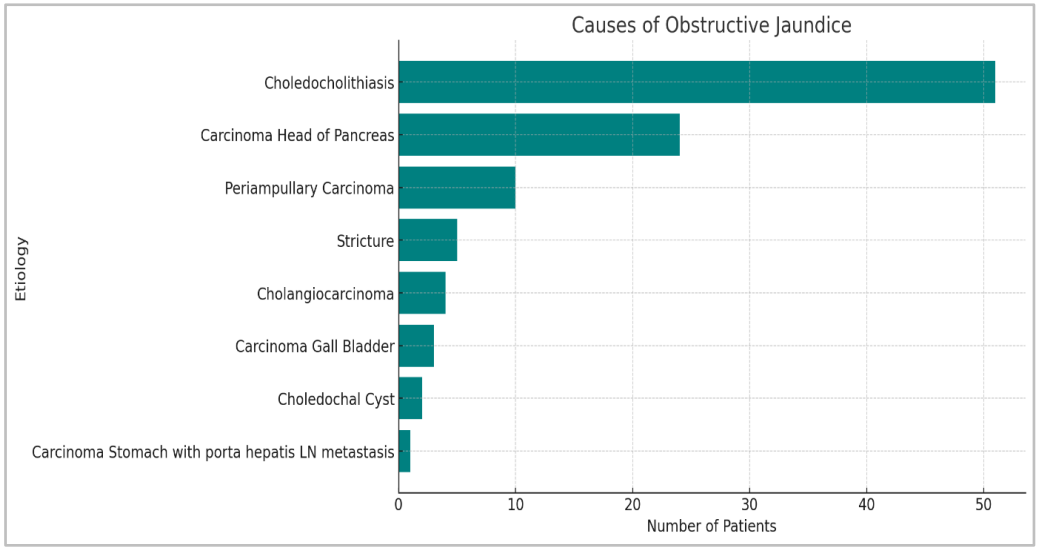

Figure 1: Causes of Obstructive Jaundice

DISCUSSION

The diagnosis of obstructive jaundice involves clinical evaluation and laboratory investigations, including liver function tests (LFTs) that show elevated direct bilirubin and alkaline phosphatase levels (Kumar et al., 2020). Imaging modalities such as ultrasound, computed tomography (CT), and magnetic resonance cholangiopancreatography (MRCP) play a crucial role in identifying the site and nature of obstruction (Singh et al., 2022). Endoscopic retrograde cholangiopancreatography (ERCP) remains the gold standard for both diagnosis and therapeutic intervention (Patel et al., 2019).

Benign conditions such as gallstones can be managed with endoscopic removal, while malignant causes often require a combination of surgical resection, stenting, and palliative care (Johnson et al., 2021). Advances in interventional radiology have improved the outcomes of patients with inoperable malignancies through percutaneous biliary drainage and targeted therapies (Anderson et al., 2021).

Despite these advancements, challenges remain in the early detection of malignant etiologies. Biomarkers such as CA 19-9 have been useful in pancreatic cancer diagnosis, but their specificity remains a concern (Murphy et al., 2019). Future research should focus on non-invasive biomarkers and artificial intelligence-based imaging techniques for earlier and more accurate detection (Lee et al., 2020).

CONCLUSION

Obstructive jaundice remains a critical clinical entity requiring prompt evaluation and intervention. While benign causes such as gallstones are common, malignant conditions like pancreatic and biliary cancers necessitate aggressive management. Advances in imaging and endoscopic interventions have significantly improved diagnostic accuracy and therapeutic outcomes. Future studies should focus on refining diagnostic markers and enhancing minimally invasive treatment modalities to improve patient prognosis.

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Conflict of Interest

The authors declare no conflict of interest related to this study.

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