

## Private Consultation of Obstructive Jaundice

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| Received: 07.07.2025 | Accepted: 12.09.2025 | Published: 15.09.2025

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### Abstract

### Case Report

Obstructive jaundice is a critical clinical condition with the potential to progress rapidly to liver failure if not promptly diagnosed and managed. Choledocholithiasis, the most common cause, often presents diagnostic challenges compounded by variable symptom onset and healthcare access limitations. This report details the case of a 42-year-old obese female who experienced severe abdominal pain and symptoms indicative of biliary obstruction but faced difficulties obtaining timely primary care. Subsequent evaluation in a private clinic enabled urgent imaging and laboratory assessments, revealing obstructive jaundice. Magnetic Resonance Cholangiopancreatography (MRCP) confirmed a bile duct stone, and therapeutic intervention via Endoscopic Retrograde Cholangiopancreatography (ERCP) successfully removed the obstruction and placed a biliary stent. Prophylactic antibiotics were administered to prevent infectious complications. This case highlights the ongoing challenges in healthcare accessibility and the importance of rapid, coordinated diagnostic and therapeutic interventions. It underscores the efficacy of MRCP as the diagnostic modality of choice and the critical role of timely treatment pathways in preventing progression to liver failure, thereby contributing valuable insights into optimising management strategies for obstructive jaundice in contemporary clinical practice.

**Keywords:** Obstructive jaundice, Choledocholithiasis, Biliary obstruction, Magnetic Resonance Cholangiopancreatography (MRCP), Endoscopic Retrograde Cholangiopancreatography (ERCP), Liver function tests (LFTs), Gallstones, Prophylactic antibiotics, Common bile duct (CBD), Diagnostic imaging.

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## INTRODUCTION

Obstructive jaundice remains a significant clinical concern due to its potential for rapid progression to liver failure if diagnosis and intervention are delayed. While choledocholithiasis is recognised as the most prevalent aetiology, timely detection is often hindered by variable symptom onset and access barriers to healthcare services. Previous studies have extensively documented the pathophysiology, risk factors, and diagnostic algorithms for biliary obstruction, emphasising classic presentations such as right upper quadrant pain, jaundice, and the well-known 'four F's' for gallstone risk, female, fat, forty, and fertile. Nevertheless, gaps remain regarding the impact of healthcare accessibility and the selection of optimal imaging modalities in acute presentations.

This case study presents the clinical course of a middle-aged, obese female who developed obstructive jaundice secondary to choledocholithiasis, in the context of healthcare system limitations and the necessity for rapid, multidisciplinary intervention. Through detailing

her diagnostic journey, including the role of emergent private care access, modern imaging (MRCP), and the use of prophylactic antibiotics. This report aims to underscore both classic and contemporary challenges in obstructive jaundice management. The novelty and scope of this report lies in its holistic portrayal of patient pathways outside standard primary care, evaluating the effectiveness of rapid diagnostics and intervention in preventing severe complications. By highlighting these facets, this work contributes new insights into optimising timely management strategies for obstructive jaundice in a changing healthcare landscape

## CASE PRESENTATION

A 42-year-old obese female with a sedentary lifestyle and a body mass index (BMI) of 34, otherwise in good health, presented with severe upper abdominal pain. Over several weeks, her symptoms progressively worsened, prompting her to seek an urgent appointment with her general practitioner (GP). Due to difficulty in obtaining timely primary care, she opted to visit a private clinic, where she was seen on the same day. Upon

**Citation:** Saba Tahir & Ahad Miah. Private Consultation of Obstructive Jaundice. Sch J Med Case Rep, 2025 Sep 13(9): 2069-2071.

detailed enquiry, the patient reported escalating pain localised to the epigastric region and right upper quadrant (RUQ), accompanied by nausea and vomiting. She noted that symptoms predominantly occurred postprandially, especially following fatty food intake. Her self-medication with over-the-counter Nexium® (esomeprazole) for several weeks failed to provide symptom relief too.

Physical examination revealed a subtle icterus affecting the sclerae as well as a positive Murphy's sign, indicative of gallbladder inflammation. An abdominal ultrasound conducted at the clinic disclosed resolving cholecystitis alongside mild biliary ductal dilation. The clinical team recommended liver function tests (LFTs) to further explore the underlying pathology and commenced prophylactic antibiotic therapy with co-amoxiclav.

Later that evening, the clinic contacted the patient, advising urgent evaluation at the emergency department due to markedly deranged LFT results consistent with obstructive jaundice corroborated by ultrasound findings. At the hospital, Magnetic Resonance Cholangiopancreatography (MRCP) confirmed the presence of a bile duct obstruction caused by choledocholithiasis. The patient underwent Endoscopic Retrograde Cholangiopancreatography (ERCP), during which bile duct clearance was achieved by removal of a small stone and placement of a biliary stent to facilitate bile flow.

Following successful ERCP intervention, the patient's liver function normalised progressively, and she was discharged after a one-week hospitalisation with plans for outpatient follow-up.

<b>Indications</b>	
<b>Notes</b>	
	RUQ pain, worse with fatty food. ? Biliary Colic, ? gallstones.
<b>Impressions</b>	
<b>Notes</b>	
Findings:	
	Normal size and morphology to the liver, with no background fatty infiltration noted. No cirrhotic features. No splenomegaly, upper abdominal varices or ascites. No concerning focal hepatic lesion.
	No calculi within the well distended gallbladder, although there is diffuse smooth mural oedema with a thickness of ~3mm. No calculi noted within, however there is mild smooth central and extrahepatic biliary dilatation - the common bile duct measures up to 8mm. No discernible intraductal calculus is demonstrated within allowing for streak artefact close to the ampulla due to intraluminal gas within the gastric pylorus/duodenum.
	Pancreatic features are unremarkable, no main duct dilatation. No discernible focal lesion within the visualised head, neck or body.
	Both kidneys are of normal size, morphology and position. No concerning/acute features.
Impression:	
	Appearances suggestive of resolving cholecystitis, with associated mild biliary dilatation. Correlation with LFTs is recommended, if obstructive MRCP should be considered to establish the presence of an impacted perampullary calculus. If LFTs are normal, conservative management with antibiotics and interval USS could be considered if symptoms persist/do not resolve.

**Figure 1: (Abdominal Ultrasound report)**

<b>BIOCHEMISTRY</b>			
<b>BILIRUBIN</b>	<b>* 46</b>	<b>umol/L</b>	<b>0 - 20</b>
<b>ALKALINE PHOSPHATASE</b>	<b>* 306</b>	<b>IU/L</b>	<b>35 - 104</b>
<b>ASPARTATE TRANSFERASE</b>	<b>* 261</b>	<b>IU/L</b>	<b>0 - 31</b>
<b>ALANINE TRANSFERASE</b>	<b>* 432</b>	<b>IU/L</b>	<b>10 - 35</b>
<b>GAMMA GT</b>	<b>* 296</b>	<b>IU/L</b>	<b>6 - 42</b>
<b>TOTAL PROTEIN</b>	<b>78</b>	<b>g/L</b>	<b>63 - 83</b>
<b>ALBUMIN</b>	<b>45</b>	<b>g/L</b>	<b>34 - 50</b>
<b>GLOBULIN</b>	<b>33</b>	<b>g/L</b>	<b>19 - 35</b>
<b>AMYLASE</b>	<b>49</b>	<b>IU/L</b>	<b>28 - 100</b>
<b>HbA1c (mmol/mol)</b>	<b>No EDTA received.</b>		

**Figure 2: (Blood test results For Liver Function test)**

## DISCUSSION

One of the persistent challenges faced by General Practice within the NHS is the difficulty in securing same-day appointments due to increasing patient demand and resource constraints. In this case, the patient circumvented delays in primary care access by seeking urgent attention at a private clinic, which facilitated prompt diagnosis and management. Obstructive jaundice, if untreated, carries a significant risk of progression to liver failure, often precipitated by factors such as delayed recognition, lack of patient awareness, and dependence on unqualified medical advice.

Clinically, jaundice manifests as a yellow discoloration of the sclera and skin caused by impaired bilirubin excretion. Under normal physiological conditions, the liver processes bilirubin and facilitates its elimination via bile (Kumar *et al.*, 2020). Jaundice may be classified into pre-hepatic, hepatic, and post-hepatic (obstructive) categories, with the latter exemplified by the current case. Choledocholithiasis, or gallstones within the bile duct, represents the most common aetiology of obstructive jaundice; however, differential diagnoses should also consider malignancies, primary sclerosing cholangitis (PSC), and biliary atresia in neonates (Hall & Guyton, 2020).

Risk factors for gallstone formation include advancing age, female sex, ethnicity, obesity, dyslipidaemia, and adoption of a westernised diet (Acalovschi, 2001). The mnemonic 'four F's', female, fat, forty, and fertile, remains a useful clinical heuristic. Laboratory investigations play a pivotal role in diagnosis, with elevated alanine aminotransferase (ALT) and aspartate aminotransferase (AST) levels indicating hepatocellular injury, and raised alkaline phosphatase (ALP) and gamma-glutamyl transferase (GGT) levels reflective of biliary obstruction (Jameson *et al.*, 2021).

Prophylactic antibiotics are recommended as part of the management protocol to prevent infectious complications such as cholangitis (Navaneethan *et al.*, 2011). While abdominal ultrasound serves as an essential first-line imaging modality for detection of gallstones, its sensitivity diminishes for distal common bile duct calculi. In this context, magnetic resonance cholangiopancreatography (MRCP) is recognised as the superior imaging technique, offering detailed visualisation of lesion aetiology, location, and extent without the invasiveness associated with other modalities (Reinhold & Bret, 1996).

## CONCLUSION

This case study highlights several critical insights pertinent to the clinical management of obstructive jaundice. Foremost, the timely and early diagnosis of obstructive jaundice is imperative to prevent potentially fatal progression to liver failure, underscoring the need for heightened clinical vigilance and prompt investigative protocols. The case reiterates choledocholithiasis as the predominant aetiology of obstructive jaundice, emphasising the importance of recognising this condition in differential diagnoses. The classic risk factors, often summarised as the 'four F's', or female, fat, forty, and fertile, remain integral to identifying at-risk populations, guiding both preventive strategies and patient education efforts. Additionally, the role of prophylactic antibiotics is crucial in mitigating the risk of cholangitis and other infectious complications associated with biliary obstruction, highlighting the prophylactic and therapeutic importance of antimicrobial stewardship in this context. Finally, magnetic resonance cholangiopancreatography (MRCP) is reinforced as the diagnostic imaging modality of choice for assessing the causes of common bile duct obstruction, due to its superior ability to delineate anatomical details without the invasiveness of other techniques. Collectively, these points contribute to optimising diagnostic accuracy, treatment efficacy, and clinical outcomes in patients presenting with obstructive jaundice, while also reflecting ongoing challenges in healthcare access and delivery that may influence patient prognosis.

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