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STUDYING THE ABDOMINAL PAIN, JAUNDICE AND FEVER IN SUBJECTS WITH CHOLEDOCHOLITHIASIS

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ABSTRACT

Background: Biliary calculus is an uncommon condition in youngsters and is most common in those aged 35 to 55. Its frequency increases with age. After the age of 55, the prevalence gradually declines, mostly in women. Usually, choledocholithiasis manifests as asymptomatic stones or intermittent blockage. The clinical profile of choledocholithiasis is not well documented in the literature.

Aim: The purpose of this study was to evaluate the clinical characteristics of individuals who had choledocholithiasis.

Methods: During the research period, all participants who came to the Institute with choledocholithiasis were evaluated for two months. A thorough history, physical examination, prior biliary operations, and surgical risk factors were evaluated for each participant. Additionally, the patient's age, fever, discomfort, jaundice, cholangitis, pruritis, pale stools, nausea, and vomiting were evaluated.

Results: With the exception of six cases, all research participants had stomach discomfort indicative with biliary colic. Severe back-radiating abdominal discomfort that suggested pancreatitis was observed in 10% (n=10) of the individuals. Fever was observed in 34% (n=34) of the participants with cholangitis triad, and jaundice was documented in 60% (n=60). In 24% (n=24) of the participants with obstructive jaundice, pruritus was seen. There were no asymptomatic research participants.

Conclusion: The current study comes to the conclusion that the most prevalent symptom among individuals with choledocholithiasis, which can range from moderate intermittent biliary colic to pancreatitis, is pain. The majority of the participants had fever and jaundice, which were also prevalent indications of choledocholithiasis. Subjects with choledocholithiasis also have pancreatitis.

Keywords: Biliary colic, biliary calculous disease, choledocholithiasis, pancreatitis, severe abdominal pain

Introduction

Common bile duct stones are categorised according to their origin, chemical makeup, and timing of detection in relation to cholecystectomy. They are divided into two categories based on their chemical makeup: pigment stones and cholesterol stones. The former are more prevalent because of the crystallisation of insoluble cholesterol in supersaturated bile, which starts in the gallbladder. Bilirubin calcium salts make up pigment stones, which develop in the bile ducts.One Primary stones are those that develop spontaneously in the bile ducts, while secondary stones originate in the gall bladder. Cholecystectomy is therefore performed in conjunction with CBD stone treatment. Retained stones appear two years after choledocholithotomy and become recurrent two years later.

Small stones go to the common duct through the cystic duct. Large stones can flow from the gallbladder due to duct dilatations caused by a few stones obstructing the lower end, which raises biliary pressure.2 If CBD stones are not treated, they may

develop problems including obstructive jaundice or move spontaneously to the duodenum. Cholangitis is caused by stones blocking the duct, while pancreatitis is caused by an infection blocking the ampulla. In situations of chronic obstructive jaundice, biliary cirrhosis is seen.3. Biliary calculous illness is uncommon in youngsters and is most common in those aged 35 to 55. Its frequency rises with age. After the age of 55, the prevalence gradually declines, mostly in women. Choledocholithiasis patients may have asymptomatic stones and are typically characterised by intermittent blockage.

Stones may go to the duodenum on their own or after a brief episode of pancreatitis.4 Dark urine, pruritis, clay-colored faeces, pancreatitis, cholangitis, fever or no temperature, biliary colic, and/or jaundice are common symptoms linked to CBD calculi. Jaundice develops gradually and is obstructive, fluctuating, and intermittent.

Jaundice results from ductal blockage caused by biliary stasis.5. Stone floats in the bile duct with duct dilatation, enabling bile flow to treat jaundice. However, if left untreated, chronic cholestasis from long-term partial blockage can lead to portal hypertension, hepatic failure, and secondary biliary cirrhosis. Jaundice is a traditional indication for choledochotomy, with a 20–75% reliability rate.6

Biliary colic, a chronic illness with mild fluctuations in severity, affects the epigastrium and extends to the right hypochondrium and right subscapular region.

When a stone affects the distal CBD, it causes discomfort and biliary tract distension. Occasionally, the sphincter of Oddi is directly irritated. Typically, biliary colic discomfort lasts two to four hours before abruptly going away.7. The goal of the current clinical investigation was to evaluate the clinical characteristics of choledocholithiasis patients.

MATERIALS AND METHODS

The goal of the current prospective clinical descriptive observational study was to evaluate the clinical characteristics of choledocholithiasis patients. The research participants came from the Institute's Department of Medicine. Prior to participation, all individuals gave their verbal and written informed permission.

One hundred choledocholithiasis patients of both sexes participated in the research. Participants with a diagnosis of choledocholithiasis and those who were at least 18 years old met the study's inclusion requirements. They were healthy, stable, and consenting participants who were admitted to the institute during the research period. Subjects with biliary strictures, intrahepatic stones, recurring instances, slid stones after surgery, and those who did not consent to research participation were excluded from the study.

Following the research participants' final inclusion, each one underwent a thorough clinical examination and a lengthy history taking. Preformed structured proforma were used to collect the necessary data. Along with the physical examination, surgical risk factors, and history of prior biliary procedures, each subject's complete medical history was documented. Pancreatitis, cholangitis, pruritis, pale stools, nausea, vomiting, fever, discomfort, jaundice, and age were all noted in the history. SPSS (Statistical Package for the Social Sciences) software version 21.0 (IBM Corp., Armonk, NY, USA) was used to statistically analyse the collected data. This included chi-square, independent t-test, Mann Whitney U, and descriptive measure evaluation. The findings were presented as frequency, percentages, mean, and standard deviation. Statistical significance was defined as a p-value of less than 0.05.

RESULTS

Assessing the clinical features of individuals with choledocholithiasis was the aim of the current prospective clinical descriptive observational investigation. The study included one hundred individuals with choledocholithiasis of both sexes. The study's inclusion criteria were fulfilled by participants who were at least 18 years old and had a diagnosis of choledocholithiasis.

The average age was 53.82±6.44 years, with the mean ages of the men and females being 53.76±4.28 and 53.88±5.12, respectively. Of the study participants, 32% (n=32) were between the ages of 55 and 65, with 12% (n=12) men and 20% (n=20) females. These were followed by 26% (n=26) who were over 65, with 10% (n=10) males and 16% (n=16) females, and 22% (n=22) who were under 45, with 8% (n=8) males and 14% (n=14) females and 20% (n=20) subjects from 45-54 years with 8% (n=8) males and 12% (n=12) females. There were 38% (n=38) males and 62% (n=62) females as shown in Table 1.

According to Table 2, the most common complaint among the study participants with choledocholithiasis was pain, which was reported by 94% (n=94) of them. This was followed by jaundice in 60% (n=60) of them, fever in 34% (n=34), pruritis in

24% (n=24), pancreatitis in 10% (n=10), and vomiting in at least 8% (n=8) of them. Twenty percent of the research participants had hypertension, and twenty-four percent had diabetes, according to their medical histories (Table 3).

According to the study's findings, 16% (n=16) of the participating participants had bilirubin levels below 1 mg%. 1-2 mg% bilirubin was seen in 30% (n=30) study subjects, bilirubin of 2-4mg% was seen in 32% (n=32) study subjects, 4-6mg% bilirubin was seen in 12% (n=12) study subjects, and >6mg% bilirubin was seen in 10% (n=10) study subjects respectively. Table 4 summarises the research participants' mean bilirubin mg%, which was 2.94±1.66 mg%.

The study found that 64% (n=64) of the study participants had alkaline phosphatase levels between 150 and 250 IU/L, 18% (n=18) had levels between 250 and 350 IU/L, and 6% (n=6) had levels below 150 IU/L. According to Table 5, the mean alkaline phosphatase levels were 238.4±96 IU/L.

DISCUSSION

One hundred choledocholithiasis patients of both sexes participated in the research. Participants with a diagnosis of choledocholithiasis and those who were at least 18 years old met the study's inclusion requirements. The average age was 53.82±6.44 years, with the mean ages of the men and females being 53.76±4.28 and 53.88±5.12, respectively.

32% (n=32) of the study participants were between the ages of 55 and 65, with 12% (n=12) males and 20% (n=20) females. These were followed by 26% (n=26) of the participants who were over 65, with 10% (n=10) males and 16% (n=16) females, 22% (n=22) of the participants who were under 45, with 8% (n=8) males and 14% (n=14) females, and 20% (n=20) of the study participants who were between the ages of 45 and 54, with 8% (n=8) males and 12% (n=12) females. Sixty-two percent (n=62) were female and 38 percent (n=38) were male. These findings were similar to those of studies by Hu KC et al. (2016) and Al Salamah SM8 (2005), in which the authors evaluated participants with demographic information similar to that of the current research with choledocholithiasis.

Regarding the choledocholithiasis research participants' presenting symptoms, There were ninety-four percent (94) of the study participants who reported pain, sixty percent (60) who reported jaundice, thirty-four percent (34), twenty-four percent (24), ten percent (10) who reported pancreatitis, and at least eight percent (n=8) who reported vomiting. In terms of the study participants' medical histories, 20% (n=20) reported having hypertension, and 24% (n=24) reported having diabetes. These findings were in line with research by Brodsky A et al. (2000) and Hale MD et al. (2014), who noted that their study participants with choledocholithiasis had comparable presenting symptoms to those in our study.

According to the bilirubin counts in the study participants, 16% (n=16) had bilirubin levels of less than 1 mg%, 30% (n=30) had bilirubin levels of 1-2 mg%, 32% (n=32) had bilirubin levels of 2-4 mg%, 12% (n=12) had bilirubin levels of 4-6 mg%, and 10% (n=10) had bilirubin levels of >6 mg%. The research participants' mean bilirubin mg% was 2.94±1.66 mg%. These results were consistent with those of Khan S et al. (2012) and Fuks D et al. (2015), whose authors reported similar bilirubin levels to those in the current study in their separate investigations.

According to the study's findings, 64% (n=64) of the participants had alkaline phosphatase levels between 150 and 250 IU/L, 18% (n=18) had levels between 250 and 350 IU/L, and 6% (n=6) had levels below 150 IU/L. The average alkaline phosphatase concentration was 238.4±96 IU/L. These findings were consistent with those of Song ST et al. (2015) and Loureiro ER et al. (2011), whose authors reported alkaline phosphatase levels that were comparable to those in the current investigation.

CONCLUSIONS

According to the current study's limitations, the most prevalent symptom among individuals with choledocholithiasis, which can range from moderate intermittent biliary colic to pancreatitis, is pain. The majority of the participants had fever and jaundice, which were also prevalent indications of choledocholithiasis.

Subjects with choledocholithiasis also have pancreatitis. For conclusive results, more longitudinal research with bigger sample numbers and longer monitoring are required.

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TABLES

S. No	Age (years)	Males		Females		Total	
		n	%	n	%		
1.	**Mean ± S. D**	53.76±4.28		53.88±5.12		53.82±6.44	
2.	**<45**	8	8	14	14	22	22
3.	**45-54**	8	8	12	12	20	20
4.	**55-65**	12	12	20	20	32	32
5.	**>65**	10	10	16	16	26	26
6.	**Total**	38	38	62	62	100	100

Table 1: Age and gender distribution in study subjects with cholelithiasis

S. No	Presenting complaints	Number (n)	Percentage (%)
1.	**Vomiting**	8	8
2.	**Pruritis**	24	24
3.	**Pancreatitis**	10	10
4.	**Fever**	34	34
5.	**Jaundice**	60	60
6.	**Pain**	94	94

Table 2: Presenting complaints in study subjects

S. No	Past medical history	Number (n)	Percentage (%)
1.	**Hypertension**	20	20
2.	**Diabetes**	24	24

Table 3: Medical risk factors in the study subjects

S. No	Bilirubin (mg%)	Number (n)	Percentage (%)

1.	**<1**	16	16
2.	**1-2**	30	30
3.	**2-4**	32	32
4.	**4-6**	12	12
5.	**>6**	10	10
6.	**Mean ± S. D**	2.94±1.66	

Table 4: Total bilirubin in the study subjects

S. No	Alkaline phosphatase (IU/L)	Number (n)	Percentage (%)
1.	**<150**	6	6
2.	**150-250**	64	64
3.	**250-350**	18	18
4.	**>350**	12	12
5.	**Mean ± S. D**	238.4±96	

Table 5: Alkaline phosphatase levels in the study subjects