Original Article

Frequency of Silent Gallstones in Acute Pancreatitis

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ABSTRACT

Objective: The aim of this study is to determine the frequency of silent gallstones in acute pancreatitis.
Study Design: Observational/ cross-sectional study
Place and Duration of Study: This study was conducted at the Department of Surgery, District Headquarter Teaching Hospital Sargodha from January 2019 to July 2020.
Materials and Methods: One hundred and sixty two patients were included in this study. Patients were aged between 18-80 years. Patients who developed acute pancreatitis were presented in this study. Patients detailed demographics age, sex and BMI were recorded after taking written consent. Frequency of silent gallstones was measured. Complete data was analyzed by SPSS 24.0 version.
Results: Out 162 patients 65 (40.12%) were males and 97 (59.88%) were females. Mean age of the patients were 40.5±7.22 years with mean BMI 28.9±3.45 kg/m^2. Frequency of silent gallstones was 45 (27.8%) and rest 117 (72.22%) were acute biliary pancreatitis with previous history of biliary colic. In 117 patients of acute biliary pancreatitis frequency of females was greater.
Conclusion: In this review, we concluded that the incidence of silent gallstones is more likely to have acute biliary pancreas.

Key Words: Silent gallstones, Pancreatitis, Biliary tract

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INTRODUCTION

The majority of adults in Europe and the USA are affected by the occurrence of silent stones in the general population1. However, only a small proportion of these patients experience symptoms or complications[1]. In effect, most gallstones are referred to as clinically "silent," typically injuries which are often discovered during the abdominal investigation.[2] Some of those with gallstones experience painful bile colic symptoms that can lead in the event to conditions such as pancreatitis or acute cholecystitis.[3] But the incidence is very low, only in 2% to 3%.[4]

Acute pancreatitis, an inflammatory disease of the pancreas, in about 80 per cent of patients is usually mild and self-resolved without lasting effects.

It involves a complex cascade of events, from acinar cell damage to pancreatic cells, leading to pancreas leakage and premature activation. It initiates auto digestion; the breakup of enzymes triggers edema and bleeding tissues and cells.[5] The bile or the pancreatic duct may be migrated and blocked by gallstones. Due to the obstruction of the ducts, pressure in the pipe is increased and therefore, the digestive enzymes are not triggered in a controlled manner which increases the risk of pancreatitis[6,7].

Gallstone pancreatitis (GSP) is a moderate, complicated disease in 80% of cases and death risk is 1–3%[8]. The gallstones of faeces have been found at 90% of gallstone pancreatitis, suggesting that stones are randomly distributed through the duodenum. Many stones with a diameter of less than 5 mm and cystic conduct with a large lumen (5 mm or more) are included[9].

The gallstone size is closely linked to acute biliary pancreatitis development risk. The risk of developing pancreatitis is 4 times greater in patients with Gallstones smaller than 5 mm diameter compared with patients with larger Gallstones.[10] Accurate diagnosis of Acute Biliary Pancreatitis is critical as stone removal reduces possibility of recurrence. Photos are the gold standard for biliary lithalsas diagnosis. In uncomplicated cases, but with acute biliary pancreas, ultrasound sensitivity is greater than 95 per cent, whereas gallstone detection is less than 80 per cent, since the distension of ileus and bowel is less than sensitive.[11] The serum lipase sensitivity for the diagnosis of acute pancreatitis is marginally more sensitive than that of serum amylase. Serum lipase

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levels occur earlier and remain longer as well. Thus patients should undergo a serum lipase test for confirmation in order to make a tentative diagnosis of the acute pancreas. To make the diagnosis it is important to raise serum lipase 3-fold from the upper normal limit.[12] This research has been undertaken to retrospectively assess the possible association of silent, small gallstones with bile pancreatitis.

MATERIALS AND METHODS

This cross-sectional/observational study was conducted at department of Surgery, District Headquarter Teaching Hospital Sargodha. The study was conducted for duration of Eighteen months from January 2019to July 2020 and comprised of 162 patients. After taking informed written consent, detailed demographics including age, sex and body mass index were recorded. Patients were aged between 18-80 years. Patients who developed acute pancreatitis were presented in this study. Acute pancreatitis diagnosis was based on typical signs and symptoms, seral and lipase levels, ultrasound findings and abdominal CT scans. Frequency of silent gallstones was measured in terms of frequency and percentage. Complete data was analyzed by SPSS 24.0 version.

RESULTS

Out 162 patients 65 (40.12%) were males and 97 (59.88%) were females. Mean age of the patients were 40.5±7.22 years with mean BMI 28.9±3.45 kg/m^2. (table 1)

Table No.1: Detailed demographics of enrolled cases

Variables	Frequency	%age
Gender		
Male	65	40.12
Female	97	59.88
Mean age	40.5±7.22	
Mean BMI	28.9±3.45	

Frequency of silent gallstones was 45 (27.8%) and rest 117 (72.22%) were acute biliary pancreatitis with previous history of biliary colic. Mostly patients 122 (75.1%) were from the age group greater than 30 years. (table 2)

Table No.2: Frequency of silent gallstones

Variables	Frequency	%age
Silent gallstones	45	27.8
Acute pancreatitis	117	72.22
Distribution with age (years)		
<30	40	24.9
>30	122	75.1

We concluded from the results, frequency of acute biliary pancreatitis was higher in females and in elder adults.

DISCUSSION

Prevalence of gallstones is about 15% of the general population.[13] Age, sex and obesity are the main risk factors. Childbearing, alcohol abstinence and certain drugs are among the least risk factors.[14] Silent gallstones were observed for the abdominal pain in 27.8% of the participants who suffered from acute pancreatitis. In our study mostly patients 122 (75.15) were greater than 30 years of age. In some global estimates gallstones and alcohol account for around 70% to 80% of the cases, constitute the most frequent aetiology of acute pancreatitis.[6]

Gallstones in our sample were observed more often in women than in men or in the age group. In addition to a German report on the aetiology of pancreatitis, acute pancreatitis has been shown to be closely linked to older age and female predominance.[15] Out 162 patients 65 (40.12%) were males and 97 (59.88%) were females. Mean age of the patients were 40.5±7.22 years with mean BMI 28.9±3.45 kg/m^2. These results were comparable to the previous studies conducted by Amna Shahab et al.[16] Diehl et al presented 50% of acute pancreatitis patients contained 20 stones or more of a dimension less than 5mm[17]. We also found similar results in our research. Since abdominal ultrasound is readily available, silent gallstones are diagnosed with increased frequency. The treatment remains controversial, however. For patients with a high risk of complications, gallbladder, diabetic or immune-suppressive treatment, prophylactic cholecystektomy is recommended.

AsGS is important because postoperative immune suppression is required in patients undergoing transplantation. The masking of signs and symptoms due to immunosuppression can cause a rising level of morbidity and mortality. Some of the immunosuppressive medicines, like cyclosporine and tagrolimus, are prolithogenic. The purpose of prophylaxis is to remove a potential septic flag, as the mortals of emergency cholecystectomy in patients with immunosuppression have been documented to be higher. Around 10 percent of infection-related cases of acute pancreatitis have occurred. These infectious agents include bacterial agents such as mycoplasm, legionella, leptospira, viruses like the cytomegalovirus, human immunodefi virus, herpes simplex virus and varicellazotervirus.. Pancreatitis can also be rarely caused by fungi (aspergillus) and parasites (toxoplasmosis, ascaris, cryptosporidium).[19] Patients with several small gallions have a higher risk of acute biliary pancreattitis. For asymptomatic patients with microlithiasis, cholecystectomy may be advised but not urgently needed.. ERCP with biliary sphincterotomy may be the preferred method of treatment for patients who are weak surgical candidates.

CONCLUSION

In this study, we concluded that the incidence of silent gallstones is more likely to have acute biliary pancreas.

Author's Contribution:

Concept & Design of Study:	Allah Nawaz
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Conflict of Interest: The study has no conflict of interest to declare by any author.

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