



PREVALENCE OF CHOLECYSTOLITHIASIS AMONG PATIENTS WITH CHRONIC RENAL FAILURE UNDERGOING HEMODIALYSIS IN BENGHAZI LIBYA

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ABSTRACT:

INTRODUCTION

It is unclear whether the prevalence of cholecystolithiasis is increased in chronic renal failure patients on hemodialysis. The purpose of this paper is to evaluate the prevalence of gall bladder stones among Libyan patients with chronic renal failure on regular hemodialysis.

MATERIALS AND METHODS

A retrospective review of the charts of patients undergoing hemodialysis for chronic renal failure at Hawari Nephrology Center, Benghazi, Libya from 2000 to 2005.

RESULTS

The study included 250 patients (146 male and 104 female). The age ranged from 18 to 88 years with a mean of 49.5 ± 19.9 . The overall prevalence of gallstones was 20.80%. The prevalence was higher in diabetic (27.03%), than non-diabetic patients (18.18%). We compared a group of our patients with a sample of the normal population from Benghazi. Although the prevalence of gallstones was slightly higher in the chronic renal failure group as compared to the normal population group, this difference was not statistically significant (P value = 0.866).

CONCLUSION

The prevalence of gallstones in Libyan patients with chronic renal failure on regular hemodialysis is similar to that of healthy controls, in keeping with most reports from other studies.

KEYWORDS: Cholecystolithiasis, Chronic Renal Failure, Gallstone Prevalence

INTRODUCTION

Cholecystolithiasis or gallstone disease is one of the most common gastrointestinal diseases. Complications due to cholecystolithiasis, and subsequent hospital admissions are responsible for a great deal of morbidity and some mortality, in addition to the financial burden and large numbers of hospital beds required. [1,2]

It is known that the prevalence of Cholecystolithiasis varies greatly among countries and among people of different ethnic origins [3, 4]. Few studies addressed the prevalence of cholecystolithiasis in the Libyan population. In 2007 Milad MH et al. reported a gall bladder stones (GBS) prevalence of 14.77% among 1130 female patients from the city of Sebha.[5] In the same year Elmehdawi R et al. from our institution reported a gall bladder stones prevalence of 17.5 % among a sample of the general population from the city of Benghazi.[6]

There are conflicting reports in the literature regarding the prevalence of gall bladder stones among patients suffering from chronic renal failure (CRF) on hemodialysis (HD). It is unclear whether the prevalence of GBS is increased in chronic renal failure patients on hemodialysis.

In some studies, most of which were controlled, the incidence of GBS in chronic renal failure patients undergoing hemodialysis was found to be similar to that of controls [2, 7-13]. However, other mostly uncontrolled reports revealed an increased prevalence of cholecystolithiasis in hemodialysis (HD) patients by as much as 30% [14-16]

The purpose of this paper was to evaluate the prevalence of gall bladder stones among Libyan patients with chronic renal failure undergoing regular hemodialysis.

MATERIALS AND METHODS

We retrospectively reviewed the charts of patients undergoing hemodialysis (HD) for chronic renal failure (CRF) at Hawari Nephrology Center; Benghazi, Libya, from 2000 to 2005. A total of 250 CRF patients were included in the study, their hospital records were reviewed with regard to age, sex, duration of hemodialysis and the presence of diabetes mellitus.

A history of post dialysis cholecystectomy and abdominal ultrasonography were the criteria for the diagnosis of cholecystolithiasis. Only patients undergoing dialysis for at least one year were included in the study.

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We compared our group of chronic renal failure patients with a sample of the general population from Benghazi, reported in a previously published study from our institution. [6]
Data obtained were analyzed using the Statistical Package for Social Sciences (SPSS) software version 20.0. Descriptive analysis was done using mean \pm standard deviation, frequency and percentage of each value. A p value of less than 0.05 was considered significant.

RESULTS

A total of 250 patients were undergoing hemodialysis for chronic renal failure at Hawari Nephrology Center during the study period.

Males (146) represented 58.4% while (104) 41.6% were females. Age ranged widely from 18 to 88 years with a mean of 49.5 ± 19.9 . Eighty five percent of patients were on dialysis for more than five years. Other demographic data are shown in Table 1.

Fifty two patients had gall bladder stones giving an overall prevalence of 20.80% (52/250). The prevalence was higher in diabetic 27.03% (20/74) than non-diabetic patients 18.18% (32/176) Table 2. Because diabetes mellitus is a risk factor for both chronic renal failure and cholelithiasis, and to reduce bias caused by this fact we compared non-diabetic patients with a sample of the normal population from Benghazi, reported previously from our institution [6]. Although the prevalence of GBS was slightly higher in the CRF group as compared to the normal population group, this difference was not statistically significant P value = 0.866. Table 3.

Of 52 cases with GBS only 19 (36.54%) were symptomatic, most of them had already been operated and 33 (63.46%) cases were asymptomatic. Table 4.

DISCUSSION

Cholelithiasis or gallstone disease is very common in the western population, from 10 to 20% of the general people in western countries have gallstones mostly asymptomatic [17-20]. Although the prevalence of gallstone disease is known to be low in Africa [20], in the Libyan population it has been found similar to western countries [6]. In our society, low fiber diets, high cholesterol intake, obesity and multiparity might be factors increasing the risk of gall bladder stone formation. [5,6]

Gallstone disease remains asymptomatic in most cases, and complications such as biliary colic, cholecystitis, cholangitis or biliary pancreatitis occur in only 1% of the population annually. [20, 21]

To the best of our knowledge, there are no previous Libyan studies denoting the prevalence of gall bladder stones in CRF patients on hemodialysis, and whether it is higher than the general population or not. There are conflicting reports in the literature regarding this subject; most reports indicate that the prevalence is similar to that of the general population [2, 7-13].

Other reports concluded that the prevalence is higher in CRF patients on HD [14-16]. They claim that CRF patients have an increased cholesterol saturation index of the bile

[22], probably due to a low protein diet which may alter the composition of bile [23,24]

Elmehdawi R et al., [6] from our institution studied a sample of the normal population from Benghazi in 2007 by abdominal ultrasound and found a gallstone prevalence of 17.5% (18.3% in women and 15.8% in men). Torres et al., studied 500 people who had undergone abdominal ultrasound and whose complaints were unrelated to the biliary system and found a gallstone frequency of 18.4% (20.8% in women and 16% in men). [25]

In the present study; the overall prevalence of cholelithiasis among CRF patients undergoing HD was 20.80% (52/250). The prevalence was higher in diabetics 27.03% (20/74) than non-diabetics 18.8% (32/176).

These findings are similar to those reported by Elmahdawi R et al. [6] for the general population in Libya. Actually the prevalence of gallstones among our diabetic patients with CRF was less than that of the group of diabetic patients without CRF reported by Elmahdawi R et al. In our study although the prevalence of gallstones in non-diabetics was slightly higher than that of the general population reported by Elmahdawi R et al., the difference was not statistically significant Table 3 (P value = 0.866)

In the majority of our patients the finding of gallstones was incidental upon ultrasound scan of the abdomen; only 30% were symptomatic, and most of the latter had already been operated.

In the general population only symptomatic gallstone disease is considered as an indication for cholecystectomy, and expectant management is considered an appropriate choice for asymptomatic gallstones. [13,20]. In patients waiting for kidney transplantation and according to European guidelines; pre-transplant cholecystectomy might be considered in cases of asymptomatic cholelithiasis [26]. In Finland abdominal screening with ultrasound and cholecystectomy in cases of gallstones has been required before acceptance to the renal transplantation waiting list [13]. Because of immunosuppressive therapy, the complications of gallstone disease can be more severe and the diagnosis delayed in post-transplantation patients. [13,27] In one study, surgical morbidity occurred in 14%, mortality was 7% and the kidney grafts were lost in 20% of the patients with symptomatic gallstones operated after transplantation. In the same report, in a series of 45 patients with cholecystectomy performed prior to kidney or pancreas transplantation, there was neither morbidity nor mortality [28]. Therefore, it seems logical to perform routine pre-transplant cholecystectomy in those patients. The cholecystectomies in such patients should be accomplished through laparoscopic methods, which have a very low frequency of morbidity and almost no associated mortality. [2,20]

CONCLUSION

We found a similar prevalence of gallstones in CRF patients undergoing HD to healthy controls, and this was similar to the results of most of the previous studies in the literature.

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The Danger of Antibiotic Overuse

resistance is a widespread problem, and one that the Centers for Disease Control and Prevention (CDC) calls "one of the world's most pressing public health problems." Bacteria that were once highly responsive to antibiotics have become more and more resistant. Among those that are becoming harder to treat are pneumococcal infections (which cause pneumonia, ear infections, sinus infections, and meningitis), skin infections, and tuberculosis.

