

CLINICAL SCIENCE

CHOLELITHIASIS IN PATIENTS ON THE KIDNEY TRANSPLANT WAITING LIST

André Thiago Scanduzzi Brito,¹ Luiz Sergio Azevedo,^{II} Willian Carlos Nahas,^{II} André Siqueira Matheus,^I José Jukemura^I

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OBJECTIVES: To evaluate the prevalence of cholecystopathy in chronic renal patients awaiting kidney transplants.

INTRODUCTION: The prevalence and management of cholelithiasis in renal transplant patients is not well established.

METHODS: A total of 342 chronic renal failure patients on the waiting list for a kidney transplant were studied. Patients were evaluated for the presence of cholelithiasis and related symptoms, previous cholecystectomies and other abdominal surgeries, time on dialysis, and general data (gender, age, number of pregnancies, and body mass index).

RESULTS: Cholelithiasis was found in 41 out of 342 patients (12%). Twelve of these patients, all symptomatic, had previously undergone cholecystectomies. Five out of 29 patients who had not undergone surgery were symptomatic. Overall, 17 patients (41.5%) were symptomatic. Their mean age was 54 (range 32-74) years old; 61% were female, and their mean body mass index was 25.4. Nineteen (76%) out of 25 women had previously been pregnant, with an average of 3.6 pregnancies per woman.

CONCLUSIONS: The frequency of cholelithiasis was similar to that reported in the literature for the general population. However, the high frequency of symptomatic patients points toward an indication of routine pre-transplant cholecystectomy to avoid serious post-transplant complications.

KEYWORDS: Cholelithiasis; Chronic Renal Failure; Kidney Transplant; Waiting List.

INTRODUCTION

Cholelithiasis is one of the most common gastrointestinal diseases. Complications due to cholelithiasis and subsequent hospital admissions are responsible for enhanced morbidity and mortality in addition to large expenses and large numbers of hospital beds needed by these patients. For most surgeons, asymptomatic lithiasis does not require surgical treatment, which is only required in the presence of pain or complications such as cholecystitis, cholangitis, jaundice or pancreatitis.¹ However, more severe complications may occur in solid organ transplant patients compared to the normal population.²⁻⁶ The immunosuppression

experienced by transplant patients (including the intensity of immunosuppression and type of immunosuppressant drug used) is responsible for this increase in complications.⁷⁻⁸ Based on these data, some authors suggest prophylactic cholecystectomy in asymptomatic patients before they undergo transplants, thereby avoiding serious morbidity and increased mortality.

The purpose of this paper is to evaluate the prevalence of cholecystopathy in chronic renal patients awaiting kidney transplants.

PATIENTS AND METHODS

We retrospectively reviewed the charts of patients on the waiting list for kidney transplants in our unit. The analysis was performed until December 2007 and included 342 patients from whom routine complete abdominal ultrasound results could be recovered. This ultrasound is performed on all patients as part of the initial evaluation before entering the list. We looked for the presence of gall bladder disease and past history of symptoms of biliary lithiasis, jaundice,

^I Disciplina de Cirurgia do Aparelho Digestivo, Faculdade de Medicina da Universidade de São Paulo - São Paulo/SP, Brazil.

^{II} Unidade de Transplante Renal, Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo - São Paulo/SP, Brazil.

Tel.: 55 11 3283.3670

Email: jjukemura@yahoo.com.br

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pancreatitis or cholecystectomy as well as previous abdominal surgery. We also collected general data, such as gender, age, body mass index, and number of pregnancies. When data were not available from patient charts, personal contact by phone was made to obtain missing data.

RESULTS

Forty-one out of 342 patients (12%) had cholelithiasis. Of these, 12 (29%) had a past history of cholecystectomy due to symptomatic cholelithiasis and 29 (71%) showed current lithiasis. Among the 29 patients who had not undergone operations, 5 were symptomatic. Overall of the 41 patients with cholelithiasis, 17 (41.6%) were symptomatic. Eight patients showed signs of chronic hepatopathy, as shown by enhanced liver echogenicity or portal or hepatic vein size. Only 4 patients had undergone previous abdominal surgeries (appendectomies).

Twenty-five (61%) out of the 41 above mentioned patients were female. Their mean age was 54 years old (range 32-74), and their mean body mass index was 25.4. Nineteen women (76%) had previously been pregnant, with an average of 3.6 full-term pregnancies per woman (average of 4.5 pregnancies when abortions were included).

DISCUSSION

Few studies in Brazil have evaluated the frequency of cholelithiasis. Coelho et al.⁹ studied 1,000 normal adults (who were randomly selected in shopping centers) by abdominal ultrasound and found a gallstone prevalence of 9.3% (12.9% in women and 5.4% in men), with marked age-dependent differences (2.4% of people 20-29 years of age vs. 27.5% of people over 70 years old). Torres et al.¹⁰ studied 500 people who had undergone an 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). These data, as well as data from the international literature, point to a high frequency of asymptomatic cholelithiasis, which may remain quiescent for many years. Therefore, many surgeons suggest a follow-up assessment, indicating surgery only in symptomatic or complicated cases.¹¹⁻¹⁴

Laparoscopic cholecystectomy is considered the gold standard for symptomatic uncomplicated cholelithiasis. After its use became widespread, laparoscopic cholecystectomy was shown to have a remarkably lower rate of morbidity and mortality compared to surgery in patients with complicated cholelithiasis; thus, many surgeons proposed laparoscopic surgery for asymptomatic patients in good clinical condition.¹⁵⁻¹⁷ This is the policy in our department.

Cholecystectomy in asymptomatic candidates and organ transplant patients is also controversial.¹⁸⁻²³ Kao et al.²² performed an extensive review of the literature on organ transplantation and cholelithiasis. They emphasized a scarcity of data and an absence of controlled studies. These authors pointed out an increased prevalence of gallstones in cardiac patients and patients using cyclosporine (8% when CsA was not used compared to 22% after 2 years of use). They also reported no difference in diabetic *versus* non-diabetic patients. The overall prevalence of gallstones in pre-transplant (heart, lung, pancreas, and kidney) patients ranged widely, from 6.9% to 43.8%. In patients receiving a pancreas or kidney alone, the frequency was 9.9%. As the prevalence of gallstones in the general population is estimated to be 10-20%, it seems that the prevalence of gallstones in kidney transplant candidates is not different from that of the general population. However, the aggregate prevalence of new post-transplant (kidney and pancreas) gallstones is 12%. Pre-transplant elective cholecystectomy in non-cardiac solid organ candidates leads to no enhanced morbidity or mortality. However, when performed in the post-transplant period, the risk of cholecystectomy complications rises to an average of 11.8% morbidity and 1.5% mortality (0% in one study and 6.3% in another), especially when performed during emergencies. Graham et al.² evaluated 551 patients on a transplant waiting list (kidney and pancreas) and found a pre-transplant cholelithiasis prevalence of 10%. Patients who submitted to prophylactic pre-transplant cholecystectomy showed no morbidity or mortality. By contrast, 18% of patients who did not undergo pre-transplant surgery presented biliary complications and were submitted to urgent surgery, resulting in 14% morbidity and 7% mortality. Greenstein et al.²³ evaluated 211 asymptomatic kidney transplant patients and found a cholelithiasis prevalence of 7.11%; 87% of these patients had remained asymptomatic for five years. Two patients developed acute cholecystitis and underwent uneventful laparoscopic surgeries. They concluded that prophylactic cholecystectomy is not justified in these cases. Melvin et al.²⁴ evaluated 662 kidney transplant patients; 144 (21.7%) had previous or current history of biliary tract symptoms or identified gallstones. Sixty nine (48%) out of those had undergone pre-transplant cholecystectomies. Fourteen patients with asymptomatic gallstones had been followed without surgery. Fifty four (37%), all symptomatic, had undergone cholecystectomy in the post-transplant period: 30 patients (55.5%) laparoscopic, 20 (37%) open cholecystectomy and 2 underwent conversion from laparoscopic to open surgery. Six patients had minor surgical complications with no mortality.

Our data showed a 12% prevalence of cholelithiasis, a large percentage of these patients were symptomatic

(17-41.6%). This patient group was at risk for developing post-transplant surgical complications, which may become very serious due to immunosuppression. The purpose of this paper was not to study post-transplant complications due to cholelithiasis. However, it seems logical to perform routine pre-transplant cholecystectomies. These cholecystectomies

should be accomplished through laparoscopic methods, which have a very low frequency of morbidity and almost no associated mortality. This practice would prevent potentially serious post-transplant complications. A multicenter randomized trial is recommended to establish the best way to deal with chronic renal failure patients with cholelithiasis.

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