

## ORIGINAL ARTICLE

# CHOLECYSTECTOMY: INDICATIONS AT UNIVERSITY OF CALABAR TEACHING HOSPITAL, CALABAR, NIGERIA

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### Abstract

**Background/objective:** The relative rarity of gallbladder disease has been documented in various parts of Africa. Recently the incidence has been reported as rising in some African countries. We undertook this study to evaluate the indications for cholecystectomy in our center and compare with others.

**Methods:** This is a retrospective study of 18 open cholecystectomies in 10years.

**Results:** The ages ranged from 13 and 65 years (mean 39.2years). There were 15 females and 3 males (F: M = ratio 5:1). Calculous cholecystitis 9(50%) in patients, acalculous cholecystitis 8(44.4%) and a patient with carcinoma of the gallbladder were offered cholecystectomy. The commonest stone was mixed multiple stones.

**Conclusion:** The numbers of cholecystectomies attest to the rarity of gallbladder disease in this environment. This may be due to the high fiber and low cholesterol diet predominant in this coastal population in southern Nigeria.

**Key words:** Cholecystectomy, cholecystitis, gallstones

### Résumé

**Introduction/Objectif:** La rareté relative de la maladie de la vésicule biliaire a été documenté dans la plupart des pays africains. Jusqu'à récemment la fréquence a été rapportée comme en hausse dans quelques pays africains. Nous avons entrepris cette étude afin d'évaluer les indications de la cholécystectomie dans notre centre et les comparé avec d'autres.

**Méthodes:** Il s'agit d'une étude rétrospective de 18 cholécystectomies ouvertes au cours d'une durée de dix ans.

**Résultats:** Les âges varient entre 13 et 65 ans (moyenne 37,2 ans.) Il y a eu 15 du sexe féminin et 3 du sexe masculin (F: M = proportion de 5:1). Cholécystites calculs de 9 soit 50% chez les patients cholécystite acalculies de 8 soit 44,4% et un patient atteint d'un cancer de la vésicule biliaire a été donné la cholécystectomie. Un mixte de multiples pierres était la pierre la plus fréquente.

**Conclusion:** Le nombre des cholécystectomies confirme la rareté de la maladie vésiculaire dans cet environnement. Cela peut être du à la haute teneur en fibres et faible taux de cholestérol alimentaire prédominant dans cette population costale dans le sud du Nigéria.

**Mots clés:-** Cholécystectomie, cholécystite biliaire

### Introduction

The relative rarity of gallbladder disease has been reported in parts of Africa.<sup>1,2</sup> In recent times the incidence has been rising.<sup>3,4</sup> Reports from parts of

this country indicate the rarity of this disease.<sup>5,6</sup> However, cholelithiasis and cholecystitis are common in developed countries, thus making cholecystectomy one of the most common operation.<sup>7</sup> We undertook this study to evaluate the indications for cholecystectomy in our setting.

## Materials and Methods

Patients who had cholecystectomy in the University of Calabar Teaching Hospital, Calabar between July-1994 and June-2004 were evaluated from records retrieved from medical records and operating theater. The indices analyzed were biographic data, clinical features, radiologic, operative, histologic findings and outcome of treatment.

## Results

A total of 18 open cholecystectomies were done for gallbladder diseases in the period under review (July

1994 – June 2004). There were 15 females and 3 males (M: F = 5:1) (Table1). The ages ranged from 13 to 65years with a mean of 39.2 years. Five were students, 9 civil servants, 3 farmers and a trader.

The symptoms and signs are as shown on Table 2. Right upper quadrant pain was the most consistent symptom in 17(94.4%) patients. Murphy's sign was positive in 10(55.6%) patients and no patient presented with jaundice.

Nine (50%) of the patients had ultrasonography in the later 5years period of study when it became available and in 4(88.9%) patients the findings were consistent with operative and histologic results with one false-positive result.

**Table 1.** Age and sex of 18 patients undergoing cholecystectomy

Age (years)	Sex		Total
	M	F	
0 – 10	-	-	-
11 – 20	1	1	2
21 – 30	1	3	4
31 – 40	-	4	4
41 – 50	1	3	4
51 – 60	-	3	3
61 – 70	-	1	1
Total	3	15	18

Age range: 13 – 65 y; Mean: 39.2years

**Table 2.** Clinical features in 18 patients undergoing cholecystectomy

Clinical feature	No.
Right upper quadrant pain	17
Epigastric pain	1
Epigastric pain	1
Nausea and vomiting	1
Family history	-
Jaundice	18
Tenderness (Murphy's sign)	10
Hepatomegally	-

**Table 3.** Operative findings in 18 patients undergoing cholecystectomy

Finding	No.
Calculous cholecystitis	8
Solitary*	2
Multiple stones	7
Acalculous cholecystitis	8
Chronic cholecystitis	8
Carcinoma of the gallbladder	1
Total	18

\*Anatomical abnormalities: partially buried gallbladder, incomplete septum in the body of the gallbladder

Table 3 shows the operative findings which were confirmed by histology. Nine (50%) patients had calculous cholecystitis, 8(44.4%) with acalculous cholecystitis and a patient with carcinoma of the gallbladder. Anatomical abnormalities were found in the two patients with solitary stones: one with a partially buried gallbladder in the liver except the Hartman's pouch where the solitary stone was lodged, and the other with an incomplete septum in the body of the gall bladder. A patient out of the seven with multiple stones was a sickler with extensive bilateral chronic leg ulcers. There was no patient with clinical evidence of jaundice and at surgery there was no patient with a dilated or stone palpable in the common bile duct.

One patient had surgical site infection. The patient with the partially buried gallbladder developed a biliary fistula that resolved from bile leakage arising from the gallbladder bed confirmed at re-exploration. There was no mortality.

## Discussion

A total of 18 patients had open cholecystectomy for gallbladder diseases in 10years resulting in a hospital prevalence of less than 2 per year.

The true incidence of gallbladder diseases in most parts of Africa is largely unknown; our finding indicates the rarity of this disease in this environment. This compares with other results in this country<sup>5,6</sup> and other African countries<sup>2,8</sup> but at variance with others that showed an increasing trend<sup>3,4,9</sup> which may have been due to the use of USS. However in our study, the use of USS in the later 5years of this study did not show any increase in the number of cholecystectomy performed.

The female to male ratio was 5:1; this is in keeping with another study,<sup>8</sup> but at variance with other reports locally and world wide with a ratio of 2:1.<sup>5,10,11</sup> The peak age in this study spread between 21-50years with a mean of 39.2years. This is in keeping with another study in Northern Nigeria<sup>5</sup> but at variance with Lagos-(60-69years),<sup>6</sup> Ibadan,<sup>4</sup> Enugu,<sup>12</sup> Uganda<sup>8</sup> (40-59years).

Diagnosis was clinical, radiologic and confirmed by histology. Right upper quadrant pain was present in 17(94.4%) and Murphy's sign positive in 10(55.6%). Notably there was no patient with a history of jaundice recorded in this study,(Table2) and in addition there was no dilated nor stones palpable in the common bile duct during surgery. Obstructive jaundice in this environment is invariably due to pancreatic lesions. Ultrasonography was consistent with operative and histologic findings in 4(88.9%) patients with a false positive report in one.

Calculous cholecystitis was found in 9 (50%) of the patients, (Table3). The prevalence of cholelithiasis is substantially lower in African patients than in North American patients, this may partly be due to lower dietary cholesterol and a high fiber in our diet. Anatomical variation/abnormality may encourage stasis and contribute to cholelithiasis as we found a solitary stone in a patient with an incomplete septum in the body of the gallbladder. Another solitary stone was found in a patient aged 13years with a partially buried gallbladder in the liver sparing the Hartman's pouch where the large solitary stone was lodged. There was a sickler with chronic bilateral leg ulcers with symptomatic cholelithiasis. Sickle cell disease is recognized as predisposing to cholelithiasis; however the sickle cell trait does not carry a particular liability to gall stone formation.

Chronic acalculous cholecystitis was 8(44.4%) in this study, other studies reported 35%-37% in Nigerians with gallbladder disease.<sup>5,13</sup> This may be attributable to a functional deficiency in gallbladder emptying mechanism.<sup>14,15</sup> In a patient with a preoperative diagnosis of chronic acalculous cholecystitis, carcinoma of the gallbladder was diagnosed at laparotomy Nevin stage Vand confirmed on histology. Gallbladder cancer is commoner than generally recognized. No figures are available in developing countries but on impression the incidence is no less disquieting. Typically if

patient is symptomatic at the time of tumor recognition, it is too far advanced for curative surgery as was the case in this study. She was lost to follow up.

Two (22.2%) of the stones were solitary, 7(77.8%) multiple and they were all mixed stones. Other studies in this country portray similar findings.<sup>9</sup> There was no hospital mortality; the average duration of admission was 9days. Hospitalization was prolonged by surgical site infection and biliary fistula which closed spontaneously.

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