



Gallbladder Carcinoma in Ghana: Histopathological Examination of Cholecystectomy Specimen

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Authors' contributions

This work was done in collaboration with all authors. Authors LDK and AAB designed the study. Authors EA, DA and ED did the literature search, data collection and analysis. Authors LDK, KPA and SEQ were the pathologist who independently reviewed all the slides. The first draft of the manuscript was done by authors AAB and LDK. The final draft was reviewed by all the authors.

Article Information

DOI: 10.9734/JCTI/2016/24468

Editor(s):

(1) Nicole Riddle, Clinical Sciences Division, Alabama College of Osteopathic Medicine, USA.

Reviewers:

(1) Ihsan Yıldız, Suleyman Demirel University, Turkey.

(2) Anonymous, Tanta University, Egypt.

(3) Anonymous, University of Washington, U.S.A.

(4) Ahmed Gado, Misr International Hospital, Egypt.

Complete Peer review History: <http://sciencedomain.org/review-history/14129>

Original Research Article

Received 22nd January 2016
Accepted 31st March 2016
Published 12th April 2016

ABSTRACT

Objective: The aim of the study was to find out the incidence of gallbladder carcinoma in cholecystectomy specimen and the histological types from Korle-Bu Teaching Hospital, Ghana.

Methods: The study was a retrospective study using findings from 507 cholecystectomy specimen that were received at the Department of Pathology, Korle-Bu Teaching Hospital from 2006 – 2013.

Findings: Sixteen out of the 507 cholecystectomy specimen were malignant representing 3.15%. The commonest histological type of malignancy reported was adenocarcinoma, the mean age at presentation was 65.3 years (SD \pm 11.9 years) with the commonest clinical presentation being right hypochondrium pain.

Conclusion: The histopathological classification of gall bladder carcinoma in Ghanaian does not differ much from reported cases.

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Keywords: Gallbladder; carcinoma; cholecystectomy.

1. INTRODUCTION

Gallbladder carcinoma is the commonest malignancy of the biliary tract and the fifth most common malignancy of the gastrointestinal tract [1,2]. The incidence of gallbladder carcinoma varies greatly with regards to age, gender, racial, and geographical location [3]. This malignancy is generally described as a disease of the elderly with the highest incidence in the seventh decade of life [3] and affects women two to six times more commonly than men [4]. High prevalence rates are reported in Chile, Mexico, Bolivia, Northern India, Israel and Poland with much lower rates reported in countries such as Nigeria, Singapore and New Zealand [3].

Symptoms and signs of gallbladder malignancy are usually vague and non-specific, often appearing late in the course of the disease thus making it very difficult to diagnose early, as such they often present at advanced stages.

The 5-year survival rate for the carcinoma lies between 0% and 10% [1,3,5]. The poor prognosis of this disease is due to the anatomical position of the gallbladder coupled with the fact that it lacks a serosa where it is in contact with the liver, as well as the fact that a high proportion of tumours are advanced at the time of presentation [1,6].

There appears to be no work done in Ghana on gallbladder cancers, and therefore this study seeks to throw light on the disease and the histological type of cancer seen in Ghanaian population.

2. MATERIALS AND METHODS

The study was a retrospective study using findings from histopathological examinations of cholecystectomy specimen that were received at the Department of Pathology, Korle-Bu teaching hospital which receives specimen from all over the country especially the southern half from 2006 – 2013. In addition the following data were retrieved from patients request forms; patients age, sex and presenting symptoms. Data on indication of surgery, weight and height of patients were missing in most cases. These made it difficult to draw any analysis on body mass index and indications for surgery.

3. RESULTS

Over the 8-year period the department received 507 cholecystectomy specimen out of which 16 were malignant representing 3.15% of all specimen. Of the 16 malignant cases, 3 were males and 13 females, the ratio of female to males being 4.3:1. Fourteen out of the sixteen cases had a background cholecystitis representing 87.5%.

The mean age at presentation was 65.3 years (SD ±11.9 years) with range of 50-89 years.

Table 1. Clinical presentation of gallbladder carcinoma

| Symptom | Frequency (%) |
|--------------------------|---------------|
| Right hypochondrium pain | 9 (56.3) |
| Jaundice | 4 (25) |
| Right hypochondrium mass | 3 (18.8) |

Table 2. Histological types of gallbladder carcinoma detected

| Histopathological type | Frequency (%) |
|------------------------|---------------|
| Adenocarcinoma | 12 (75) |
| Undifferentiated | 2 (12.5) |
| Squamous | 1 (6.3) |
| Adenosquamous | 1 (6.3) |

4. DISCUSSION

Over the 8 year period the department received 507 cholecystectomy specimen of which 16 cases were malignant representing 3.15% of all specimen, this value is lower than 7.75% reported by Chianakwana [7] who conducted a similar study in 271 cholecystectomy specimen in Nigeria. Gallbladder cancer is reported to affect women two to six times more commonly than men [4]. In our study the ratio of male to female was 1:4.3. This compares to the ratio reported in literature but is higher than the 1:2.5 reported by Chianakwana [7].

The commonest histological type of malignancy reported was adenocarcinoma (75%) which agrees with what is reported in literature [7-9]. The other histological types that were observed in the study include; undifferentiated, squamous and adenosquamous carcinomas. Although TNM staging was not done because of absence of lymph nodes and other information, none of

the tumour extends beyond perimuscular connective tissue (T2). Rare tumours such as carcinoid tumours, lymphomas or sarcomas which have been reported by some studies [10,11] were not found in this study. Fourteen out of the sixteen cases (87.5%) had a background cholecystitis.

Though the clinical presentation of gallbladder malignancy is nonspecific, previous research has found right hypochondrium pain as the most frequently reported complaint amongst patient, [1,7,8,12] this was also true for this study where 56.3% presented at the clinic with right hypochondrium pain. Literature puts nausea accompanied by vomiting as the second most reported symptom, however in our study the second most reported symptom was jaundice (25%) followed by right hypochondrium mass (18.8%). The indications for most of the surgeries were not stated with only few stated as cholecystitis and cholelithiasis.

Jaundice and a palpable right hypochondrial mass are believed to indicate an advanced disease state [1], suggesting that most patient with gallbladder malignancy in Ghana may report to hospital very late when the disease is in a highly advanced stage but the histologic findings did not support it. The jaundice and the palpable mass were as a result of the coexisting cholecystitis and cholelithiasis.

Gallbladder carcinoma is generally believed to be a disease of the elderly with most studies reporting its peak incidences in the sixth and seventh decades of life [1,2,7,8]. The mean age of diagnosis in our study was 65.3 years and concurs with the findings of earlier studies [1,2,7,8].

5. CONCLUSION

The findings of this study show that in terms of presentation, gender and age distribution as well as in histopathological classification gallbladder carcinomas amongst Ghanaian does not differ much from what is reported in literature. Gall bladder carcinoma should be considered as one of the differentials of patients presenting with right hypochondria pain and proper investigations and operative technique used in approaching patients' management and surgery. In future gallbladder carcinoma studies in Ghana should be directed at risk factors detection, survival rate and best treatment regimen.

CONSENT

It is not applicable.

ETHICAL APPROVAL

All authors hereby declare that all aspect of the work have been examined and approved by the appropriate ethics committee and have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Available:<http://dx.doi.org/10.1155/2015/767196>

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Peer-review history:
The peer review history for this paper can be accessed here:
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