Cholecystectomy in Bir Hospital

Dr. D. N. Gongol*

Dr. D. M. Shrertha* *

Dr. M. K. Khekurel* * *

The frequency with which patients suffering from biliary tract diseases came to Surgical Ward either from Out-patient Department or Emergency Admission, has been quite impressive. This high incidence prompted us to conduct this study with the object of studying the prevalence, the type of disorders seen in the hospital.

During the years 1963-1974 a number of patients who came to this hospital with acute or chronic abdominal pain were shown to have evidence of gall bladder and biliary tract diseases. In most of them who underwent operative treatment, basic pathological disorders were found. This group includes Acute Cholecystitis, Chronic Cholecystitis, Acalculus Cholecystitis and Cholodocholithiasis. A few atypical cases which were encountered during this period will also be mentioned.

Clinical Materials and Methods :

678 patients underwent operations upon biliary tract during the above mentioned period and they are included for analysis. In the latter part of the series, in 40 cases, study has been done to find out the relationship with Typhoid fever, dietetic habits as vegetarian & non-vegetarian, influence of pregnancy and also serum Cholesterol has been estimated in about 20 cases. The serum Cholesterol estimation has been done by Colorimetric method. The age and sex incidence, types of stones have also been analysed in the study.

*Senior Surgeon, Bir Hospital

* *M. O., Bir Hospital

* * *M. O., Bir Hospital

Results: Results of this analysis are presented in tables.

Table No. 1

Age	No. of cases	Percentage
5—10 yrs.	1	0.04 %
11—20 "	27	3.82 %
21—30 "	122	18.46 %
31—40 "	200	29.29 %
41—50 "	154	22.70 %
51—60 "	125	18.47 %
61—70 "	35	5.16 %
Above 70 "	14	2.06 %
Total	678	100.00 %

AGE INCIDENCE Table No. 1 (One). Shows the age incidence and the percentage of it. Highest incidence has been found between 31—40 years, nearly 29.29%. Youngest patient was a boy of 8 years. He had a history of suffering from Typhoid Fever previously and proved to be a case of calculus Cholecystitis. The oldest patient was a lady of 86 years having calculus Cholecystitis.

Table No. 2 : Sex Distribution

MALE	149	22.1 %
FEMALE	529	77.9 %
TOTAL	678	100. %
RATIO	MALE: FEMALE = 1 : 4	

Table No. 3 : Type of stones

Detail records were available in 356 cases only and the table shows incidence of different types of stones.

CHOLESTEROL	55	15.4 %
MIXED	192	53.9 %
PIGMENT	87	24.4 %
ACALCULUS	22	6.3 %
Total	356	100.00%

Cholelithiasis without inflammation of the gall bladder was not seen in any case. The normal looking gall bladder which were present in the atypical cases were cases of *Ascaris Lumbricoides* in G B and in Common Bile Duct. One case of living round worms in G B and one case of two intact round worms in CBD were encountered and in other cases fragmented round worm in CBD. A living round worm was found accidentally on a female aged 50 years who was admitted with abdominal pain, vomiting & constipation and operated as a case of intestinal obstruction. On laparotomy a hugely distended gall bladder was found which on palpation appeared to contain a thick cord-like substance. Cholecystectomy was performed. A living round worm was seen later on when the gall bladder was opened after removal. Post-operative period was uneventful. Round worms in common bile duct were seen in three cases when they were explored for colicky pains simulating Biliary colics and with jaundice.

One case of perforation of gall bladder with gangrenous changes and biliary peritonitis was also found.

Exploration of Common Bile Duct was done in 90 cases and stones were found in 81 cases. (22.4 %)

Mortality has been 3 % in our series.

Out of 30 patients included for the relation of pregnancy to Biliary three diseases, 19 were multipara which shows the incidence to be 63 %. Dietary habits out of 40 patients, 30 patients were non-vegetarian.

8 patients had history of typhoid fever out of 40 patients studied.

DISCUSSION

The majority of the patients had chronic calculus cholecystitis. All three varieties being encountered, 90% of operations performed on the gall bladder and biliary passages were for gall stones or for the complications produced by the gall stones or for which arise from operative procedure on the gall bladder, bile duct or duodenum. Acalculus cholecystitis and pure cholelithiasis were rare though cholecystitis may originate independently of stones. Chronic gall bladder diseases are the commonest organic cause of digestive disorder. Our series indicates average one cholecystectomy in a week. The general surgical beds in the hospital are 92 and has only 4 operating days for general surgery. This shows that the incidence is considerably high.

The incidence is higher if adults only are considered. Some authors e. g. Hasen quote the incidence as 24 % while other like Mentzer computed it as 21.6 %.

Sex: Male : Female ratio is 1 : 3. Female patients are usually fat and they are often about forty otherwise gall stones may arise at any age. In our series also male : female ratio is 1 : 4 (grossly) and the females if not forty, are usually multiparous as we have seen 19 out of 30 patients included for the study of relationship with pregnancy.

Age: Cases have been reported where gall stones were present in children. (Wollaces) After the age of twenty, there is progressive rise in frequency of gall stones in both sexes. The peak incidence quoted is approximately 45, but in our series average age is 35 years.

Types of stones

Solitary Cholesterio Stones 25 %, Mixed 65 % & Pigment Stones 5.6 % & No Stones 4.4 %. Our incidence shows cholesterol 22.5%, Mixed 56.5% and Pigment 2 %. Hence Pigment stones is less than in other series.

Choledocholithiasis varies from place to place, from 8 to 25 %. We have not been able to do routine operative cholangiography and have explored the common bile duct only when indicated viz :

History of Jaundice

Common bile duct is dilated

Stone felt in the common bile duct

Pancreas felt firm and nodular suggesting Pancreatitis.

We have found stone in common bile duct in (19.7%). In Mc Evedy Series where routine operative Cholangiography has been done stones were found in 16. % cases.

Cause of Stone Formation :

As we have come accross average one cholecystectomy a week in this Hospital, the prevalence of the diseases is apparantly high. It is difficult to explain this as the cause of stone formation is much disputed.

Fly and Frette studied the role of infection in the formation of Gallstone. They have summerised their work as follows. Acrobic and An-Acrobic culture of the Gall Bladder wall and Bile of conventional mice on a lithogenic diet did not show growth. It is unlikely that bacterial cholecystitis or a Bacterial nidus has any role in gall stone formation in the mouse.

The incidence of gall stone formation in association with the disease of the terminal illium was studied by Heaton and Read. 23 out of 72 patients with disorder of the terminal illium showed gall stone. The incidence did not depend on the age but on the duration of the ilial disorder. Both emphasised bile salt recirculation and absorption of poorly soluble bacte-

rially degraded bile salt as possible cause of cholelithiasis in these patients. In these patients Glycine / Tauric composition ratio of bile salts were abnormally high. Cholelithiasis in their series is considered as the let complication of disorders of terminal illum and as an integral part of the syndrome of cholerrhic enteropathy. Excesssive exposure of bile acid to colonic bacteria is ineviatable with even minor ileal malabsorption (Hofmann).

Intestinal infestation by parasites with its sequelae is very very common in our country which may be one of the contributing factors of high prevalence of gall stone. This may be explained by the above mentioned intestinal malabosorption theory. Also in our study of the later part of the series we have come across Enteric fever in 8 out of 40 cases the youngest patient gave the history of typhoid fever two years before the unset of the biliary disease. The other patient also had similar histories many years back. The higher percentage of mixed stones may be explained by this theory.

As regard diet though in the later of our study the number of patients on non vegetarian diet has been higher than the vegetarian, we feel it has not much to do, because the majority of our population are non-vegetarian.

Gall bladder disease without stone is another interesting group and we found an incidence of 7.8 %. In the leading article of BMJ 17th Dec. 1967 the outstanding work by different writters were published about Acalculus Cholestitis. The great majority of patients with disease of gall bladder have stones in it, yet there is no doubt that Acalculus Cholestitis, though unusual, does exist. In practice the condition found at operation may range from a perfectly normal gall-bladder removed because of suspected biliary disease, through gall-bladders with mild histological changes in the wall to undoubtedly examples of acute indeed gangrenous cholecystitis in the absence of stones. The conditions where we removed gall bladder without stones have been Carcinoma Gall bladder, gangrenous GB, ascariasis in GB and CBD and mostly cholesteriosis, macroscopically. However hyperplastic disease of the gall bladder particularly adenomyomatosis accounts for a high proportion of this group. Cholecystitis glandularis proliferans may be one of the condition (Brown), but we have not made routine histological examination of the gall bladder removed. Hence we cannot say whether our cases had these pathology.

It has been definitely established that high serum cholesterol increase the risk of myocardial infarction. Also serum cholesterol can be lowered by draining Common bile duct as studied in small group of patients by DePayne and others. Walmsley and others showed that there is transient fall of serum cholesterol after cholecystectomy and more after CBD

drainage. Though a small series serum cholesterol has been studied in cases of gall stone and the finding has been as follows : Serum Cholesterol ranged between 150 mg to 250 mgms % except in 2 cases where 390 mgs % in one case & 114 mgms % in other case. Apparently serum cholesterol has not much influence in the gall stone formation and probably diet too.

Our management of acute cases had been conservative and the choronic cases by surgery. Payne in north Middle Sex Hospital & Sokhi and Longland in Glasgow have evaluated early and delayed operation in acute gall stone diseases. They have found no significant difference in mortality and morbidity but the total hospital stay has been reduced when early operated. Though Haff et al found that delayed operation had a lower incidence of complications than early operation.

Our policy has been to operate after some interval usually 6-12 weeks of acute attack. Of-course days of hospitalisation has been longer when their stay during acute stage and during operation are combined. Difficulty for the management by surgery in early cases is that the patients come after 3-4 days of pain and usually mass in the right hypochondrium. We have done cholecystectomy in emergency only when we come across gall stone while operating for other condition such as Acute Pancreatitis, Intestinal Obstruction and Malaene.

Mortality, we have seen, is 3%. They were cases of Carcinoma GB, Carcinoma Pancreas, Gangrene Gall Bladder and biliary peritonitis. Very few cases died of bleeding, pulmonary embolism and pneumonia.

Summary

In review of 678 operations on biliary tract and elaborate study of stones in 356 cases, 15.4 % Cholesterol Stones; 53.9 % Mixed Stones; 24.4 % Pigment Stones were found. There were 22 cases of Acalculous cholecystitis. The highest age group incidence is from 31 to 40 years and the females have been affected more than the males. The females are mostly multiparous. Cholesterol level has not been higher in our patients. Though non-vegetarians have been seen in larger numbers than vegetarian, the non-vegetarian population being higher than the vegetarian.

Acknowledgement

We are grateful to our colleagues Senior Surgeon Dr. A. K. Sharma, Head of Dept. of Surgery, Dr. S. K. Bhattacharya, Dr. Moin Shah, Dr. V. R. Dali whose cases have been included in this study. Our thanks are due to the Medical Superintendent of this hospital and Dr T. M. S. Pradhan, the record librarian and his dept. for this record. Our special thanks

are due to Dr T. B. Khattry, Surgeon, who has been kind enough to go through the paper and give very helpful suggestions. Thanks to Dr Shyam Bahadur Pandey who has been involved in the early part of this work.

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