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A Prospective Study of Gall Bladder Diseases

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Abstract: Aim of this study was to study the epidemiology of gall bladder diseases in the patients presenting in surgery department. Gall bladder diseases, through as old as history of medicine, still remains the world wide problem and an enigma for modern medical science. Despite advances in imaging techniques which permits earlier diagnosis, surgical techniques which allow more extensive procedures to be performed and post operative care which has reduced post-operative morbidity and mortality, carcinoma gall bladder remains a disease with dismal prognoses with overall rates of less than 10% at five years. Clinical presentation of gall bladder disease is as varied as the anatomical variations in its structure. Early symptoms may be vague and can be related to some derangements of digestion and thus the symtopms pertaining to cholelithisis and cholecystitis are commonly overlooked.
Keywords: Gall Bladder, carcinoma gall bladder, cholelithisis and cholecystitis.

INTRODUCTION

Gall bladder diseases are one of the commoner ailments that have tormented mankind. It shows particular trends related to factors that range from genetics, environmental factors to lifestyle of a person.

First and foremost gallbladder stones, which account for as much as 10% of adults in developed countries (80% are silent) and 1% of children the figures, could be higher in developing countries due to higher incidence of infective complications.

As has been said gall bladder stones are common is fat, fertile (multiple pregnancies) 40 yr old female. Other associated factors are increasing age (75% risk by age 80) some ethme communities (Pima, Hopi, Navajo, Scandinavenas Chileans, Mexican Americans etc).

Carcinoma of the gall bladder is the commonest malignancy of biliary tract and fifth most frequent carcinoma of the gastrointestinal tract in U.S.A. [1]. Though Indians in India have been reported to have a low incidence or carcinoma gallbladder [2, 3], there are wide regional variations. Carcinoma of the gallbladder is much more common, especially in women in north and central India than in the west and south. Carcinoma gall bladder is also common in Chambal region of Madhya Pradesh. The main source of drinking water in this region is the river Chambal, which is heavily polluted with agricultural pesticides. Pesticides are used indiscriminately and in abundance for crops production which eventually drains to the Chambal River.

Inspite of various advances in the management of carcinoma of the gall bladder, prognosis is still extensively poor. The reason for this poor prognosis has been generally attributed to the late diagnosis of the disease. The frequent association of carcinoma of the gall bladder with cholelithiasis is undisputed; however, controversy over the relationship still exists. Bortnichak EA *et al*. [5] using multivariate analysis has shown that the presence of gall stone is a risk factor independent of age and sex. In combining the various series of the gall bladder cancer study, stones were detected in 75% of surgical cases and 90% of autopsy cases [3]. ON the other hand, one quarter of the carcinoma of the gall bladder develop without documented cholelithiasis as reported by Peihler and Crichlow [6]. One of the many studies conferring the same result showed that primary carcinoma of the gall bladder was almost always associated with single or multiple cholesterol gallstones that were impacting on gall bladder wall. Cholesterol gall stones were in shape and with diameters > 3 cm along their longest axis whereas multiple cholesterol gallstones varied in size and number from two or three large stones (1-2 cm) to numerous smaller stones

(variable sizes upto 0.5 cm). Chao *et al*. [4] reported that the diagnostic accuracy of ultrasonography (USG) and computed tomography (CT) was 34.0% and 40.9% respectively. 88.9% of CT diagnosed and 77.8% of USG diagnosed cases were advanced gall bladder cancer.

MATERIALS & METHODS

The present study was carried out on 240 patients who had come to J.A. Hospital and associated with G.R. Medical College either as OPD patients or as admitted patients in surgery department of the hospital.

Selection of the patients

On admission or during examination in the OPDs, a detailed history and clinical examination was carried out, the requisite investigations like haemoglobin, total leucocytic counts, differential leucocytic counts, blood sugar, blood urea, liver function tests (giving main emphasis on serum bilirubin, alkaline phosphatase), serum cholesterol level.

Clinical diagnosis was made after this with help of specific investigations like ultrasonography and computerized tomography.

If required the patients underwent operative procedures after informed consent. None of the female patients who were pregnant were made part of the study.

The cases were divided into three groups:

Carcinoma Gall Bladder

Carcinoma gall bladder diagnosed on the bases of clinical profile, ultrasonography and computerized tomography.

Cholelithiasis

Cholelithiasis, diagnosis was made with clinical examination and ultrasonography.

Others

All the others were the patients in this some clinical, diagnostic or operative finding was noticed involving gall bladder.

The variety of the cases was included to widen the umbrella of the variety of diseases of gall bladder.

RESULTS

Distribution of cases patients were distributed in three group 198 patients of cholelithiasis, 27 patients of carcinoma gall bladder and 15 others (patients having gall bladder carcinoma and gall stone) patients of gall bladder disease.

Table-1: Distribution of the cases

Group	Number	Percent
Carcinoma gall bladder	27	11.25%
Cholelithiasis	198	82.5%
Others	15	6.25%
Total	**240**	**100%**

Table-2: Comparison of mean age in years of various group of patients

Group	No. of cases		Mean age		Minimum age		Maximum age	
Cholelithiasis	142f	56m	51f	53m	22f	32m	70f	70m
Ca gallbladder	19f	8m	61f	54m	35f	44m	72f	70m
Both	11f	4m	40f	42m	23f	21m	55f	60m

Mean age in patients with gallstones were 51 years for females and 53 years for males varying from 22 to 70 for females and 32 to 70 in case of males.

Mean age of Ca gallbladder patients were 61 in case of females and 54 in case of males varying from 35 of 72 in case of females and 44 to 70 in case of males.

Patients having both gall bladder carcinoma and gall bladder stone being a heteogenous group so the mean age doesn't hold much importance in that group.

Table-3: Symptoms noted in the gallbladder disease

Symptoms	Gallstones		Ca gallbladder		Others	
	No	%	No	%	No	%
Pain	120	60.6	25	92.59	4	26.66
Jaundice	10	5.05	8	29.62	2	13.33
Abdominal distension	126	63.63	2	7.4	4	26.66
Lump right. Hypochondrium	3	1.51	24	88.88	0	0
Lump other sites	8	4.04	2	7.4	0	0
Nausea	78	39.39	17	62.96	6	40
Vomiting	78	39.39	17	62.96	6	40
Anorexia	10	5.05	24	88.88	0	0
Decreased appetite	10	5.05	24	88.88	0	0
Weight loss	7	3.53	25	92.59	0	0
Malaise	34	17.17	21	77.77	4	26.66
Salty sweat	76	38.38	10	37.03	2	13.33

Pain was the commonest presenting symptom (92.59%) in cases of Ca gallbladder. Jaundice was noted in 29.62% patients that are 8 patients and 24 patients (88.88%) patients came with complaints of lump in right upper abdomen. Weight loss was present in 25 patients (92.59%) and anorexia was there in 24 patients (88.88%) nausea and vomiting was present in 6 patients (40%) each. Distension was found in 4 patients (26.66%)

In case of gallstones commoner's symptoms was abdominal distension (63.63%), 126 patients, followed by pain 60.6%, 120 patients, followed by nausea and vomiting with 78 patients each (39.39%). Surprisingly, excessive salt was found in 76 patients (38.38%)

Table-4: Distribution of cases according to socioeconomic status of patients

Group	Cholelithiasis		Ca gallbladder		Others	
	No.	%	No.	%	No.	%
LIG	80	40.40	19	70.37	3	20
MIG	110	55.55	8	29.62	6	40
HIG	8	4.04	0	0	6	40

In this cases of cholelithiasis group maximum cases were lumped in MIG that is 110 cases (55.55%), LIG came next with 80 cases (40.40%) and HIG had just 8 cases (4.04%).

In the Ca gall bladder group maximum cases came from LIG, 19 patients (70.37%). And there was no case in the HIG that presented to this institution.

Table-5: Dietary history

Dietary habits	Cholelithiasis		Ca gall bladder	
	No.	%	No.	%
Vegetarian	100	50.50	14	51.85
Non vegetarian	98	49.49	13	48.14
Frequent sweet intake	97	48.98	10	37.03
Less or minimal dairy product intake	130	65.65	19	70.37
Fruit intake	30	15.15	3	11.11
More oily food intake	87	43.93	14	51.85
More spicy food intake	97	48.98	13	48.14

Dietary history clearly shows that there is a definite association of gall bladder diseases as a whole with less or minimal dietary products intake. Gall bladder diseases as a whole are due to a spectrum of reasons and that's why no single factor can be singled out as a sole cause of a particular disease. The above mentioned percentages might just give an idea that a particular dietary habit was one of the prominent factors in causation of the diseases. Others group being a heterogeneous entity can't be included and studied in this particular table evaluation.

DISCISSION & CONCLUSION

This study explores factors said to have a role in causation of gall bladder diseases presented to the surgical department of G.R. Medical College.

I found the following conclusions after going through the observations very carefully;

- The highest incidence of carcinoma gall bladder was in 7th decades of life in females and 6th decade in males and the highest incidence in cholelithiasis is 6th decade of males as well as females.
- Carcinoma gall bladder in females was 2.375 time more than males while this ratio in gall stones was 1:2.54 in favour of females.
- Mean duration of symptoms were 10.36 months in case of females and 9.89 months in case of males in case of cholelithiasis and 15.4 months in case of males and 16.5 months in cases of females in carcinoma gall bladder.
- Most patients of carcinoma gall bladder presented with pain while most patients with cholelithiasis presented with flatulance dyspepsia distension of abdomen.
- There was a significant difference in level of bilirubin level in patients of carcinoma gall bladder and cholelithiasis when compared with each other.
- Most patients with gall stones belonged to MIG while most Ca gall bladder patients belonged to LIG.
- Conditions having more exposure of reproductive hormones predispose to gall bladder stones and (weakly positively associated) carcinoma gall bladder (in cases of females only)
- Mean cholesterol level in gall stones diseases was more than 250mg/dl while it was less than 250mg/dl in case of carcinoma gall bladder diseases.
- To confirm the association of gall bladder diseases with smoking alcohol, diet, fat intake, fruits intake etc. a case control study is required.

If patient come early in the disease period, the prognosis of the patient is always better.

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