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Gall Bladder Cancer Age and Sex Wise Distribution: A Study from Bihar.

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ABSTRACT

Background: The aim of the study is to evaluate distribution of gall bladder cancer (GBC) age and sex wise, presenting in a tertiary cancer care centre of Bihar. **Methods:** Total no. of 202 cases of gall bladder cancer is taken in a period of 2 months. **Results:** In our study incidence of Gall bladder cancer in females is found to be 2.48 times higher as compared to males. Mean age for presentation males is 55.41years, whereas in females it is 52.04 years. **Conclusion:** Thus our study concludes that Gall bladder cancer is a common malignancy of north India in both males as well as females.

Keywords: Gall bladder cancer, age, sex.

INTRODUCTION

Gall bladder cancer (GBC) occurs worldwide but exhibit striking variability in distribution. It is a relatively rare disease in the western world, but is one of the most frequent neoplasms diagnosed in Northern India reaching epidemic levels in some regions. GBC is highly malignant with a poor survival rate.[1] Most of the patients present in advanced stages as signs and symptoms are not specific and curative procedures are not possible. The disease has an insidiously rapid course of spread because gallbladder is an adjacent organ of liver. Together it all, makes the prognosis further poor and survival is less than 5 years in 90% of cases.[2] Earlier studies have shown very high GBC incidences were among the American–Indian Mapuche populations, as well as in the Northern India. The role of genetic, lifestyle factors and infections in gallbladder carcinogenesis is poorly understood.[3] Gallstones are said to have major role in causation of GBC.[4] In northern India the states of Uttar Pradesh, Bihar, Orissa, West Bengal and Assam are at high risk for GBC Studies have been done correlating etiopathogenesis and gall bladder cancer.[5] In Bihar, a state of north India, the problem of gall bladder cancer is in pretty larger magnitude. As most of the patients present in late stage only palliative treatment is given. This study includes total number of the patients of gall bladder cancer presenting in our institute in a span of 2 months duration. Our institute is a tertiary care centre for cancer patients in north India.

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MATERIALS AND METHODS

This study is a retrospective observational study which includes 202 patients as case of which 58 were male and 144 were female. Data was analysed using software SPSS Prism Graphad 5.

Diagnosis:

Patients with gallbladder cancer presented with vague abdominal symptoms and nonspecific complaints, like anorexia, weight loss and jaundice. Routine test of Blood counts, Liver Function Tests, Chest X-ray, Ultrasound of the abdomen was done in all suspected cases of GBC. On suspicion of malignancy fine needle aspiration cytology was done in most of the cases as most of the patients presented in late stage. In Jaundiced patient's prothrombin time, Magnetic Resonance Imaging, Cholangio Pancreaticography (MRCP), Endoscopic Retrograde Cholangio Pancreaticography (ERCP) was considered. Contrast Enhanced Computed Tomography scan (CECT)/Magnetic Resonance Imaging of the abdomen (MRI) was done to know extent of disease. On the basis of findings of all these tests and fine needle aspiration result collectively diagnosis is made. In many of the patients intraoperative imprint smear (as a substitute for frozen section) of the gallbladder following cholecystectomy if diagnosis of GBC is doubtful, followed by definitive resection in the same setting

was done and diagnosis was established either on the basis of imprint smear or histopathological examination.

RESULTS

Of total 28.71% patients are male and 71.29 % patients are female. Overall Mean and standard deviaton in age for disease occurrence 53.01± 11.84 yrs, for male patients it is 55.41 ±12.74yrs. Whereas for female patients it is lower (52.04±11.36 yrs.) [Table1]. Unpaired t test is applied considering age of male vs. female and p value is non-significant, bringing it to conclude that no significant difference in age of occurrence of gall bladder cancer is found.

Table 1: For Age and Sex wise analysis.

	Overall Age	Age of Male	Age of Female
Number of values	202	58	144
Minimum	22.00	22.00	26.00
25% Percentile	45.00	45.00	45.00
Median	52.50	55.00	51.00
75% Percentile	60.00	65.00	60.00
Maximum	83.00	83.00	80.00
Mean	53.01	55.41	52.04
Std. Deviation	11.84	12.74	11.36
Std. Error	0.8333	1.673	0.9471
Lower 95% CI of mean	51.37	52.06	50.17
Upper 95% CI of mean	54.65	58.76	53.91

Table 1: Frequency distribution of patient's age wise.

Bin Center	Overall Age	Age of Male (Column B)	Age of Female (Column C)
20.	1.000	1.000	0.000
25.	1.000	0.000	1.000
30.	7.000	1.000	6.000
35.	8.000	1.000	7.000
40.	22.000	7.000	15.000
45.	28.000	8.000	20.000
50.	34.000	7.000	27.000
55.	28.000	7.000	21.000
60.	29.000	6.000	23.000
65.	22.000	9.000	13.000
70.	11.000	7.000	4.000
75.	7.000	3.000	4.000
80.	3.000	0.000	3.000
85.	1.000	1.000	0.000

Column B vs Column C	Age of Male vs Age of Female
Unpaired t test	
P value	0.0670
P value summary	Non significant
Are means significntly different? (P < 0.05)	No
One- or two-tailed P value?	Two-tailed
t, df	t=1.842 df=200
How big is the difference?	
Mean ± SEM of column B	55.41 ± 1.673 N=58
Mean ± SEM of column C	52.04 ± 0.9471 N=144
Difference between means	3.372 ± 1.831
95% confidence interval	-0.2168 to 6.961
R square	0.01667
F test to compare variances	
F, DFn, Dfd	1.257, 57, 143
P value	0.2808
P value summary	Non significant

DISCUSSION

Gallbladder cancer is the most common malignancy of the gastrointestinal tract in women and the most common cause of malignant surgical obstructive jaundice in northern India.[6,7]

Gallbladder cancer rates tend to increase with advancing age. In a Memorial Sloan−Kettering report of 435 gallbladder cancer patients median age was 67 years and it was twice more common in women than in men.[8] Murthy et al concluded in their study that the incidence of GBC increases after the age of 45 years and is maximum at the age of 65 years.[9] In our study GBC median age is 52.50 years.

In our study though the malignancy is more common in females but minimum age for disease incidence was (higher) 26 years as compared to 22 years in males. Maximum age of disase occurenc in our study for male patients is 83 years wheras for females it is 80 years. Thus our study concludes that age is no bar if we are considering about upper age limit for disease.

Our study found thatgall bladder cancer is 2.5 times common in women as compared to men. Dhir et al in 1999 have reported that GBC is two times higher in women than men and is the leading digestive cancer in women in northern Indian cities.[10]

CONCLUSION

Gall bladder cancer is a common malignancy of North India. This study from Mahavir Cancer Sansthan of Bihar shows that Gall bladder cancer is very common amongst both male and female population of Bihar and adjacent states. The cancer is 2.5 times common in women as compared to men. Age of presentation is low as compared to western countries.

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