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Original Research Paper

Surgery

GRADUAL DEREASING AGE OF INCIDENCE OF CHOLECYSTITIS

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ABSTRACT

INTRODUCTION: Cholecystitis is most common gall bladder disease encountered in this region of Gang and Brahmaputra basin. It is also called as bread and butter for general/GI surgeons. Broad knowledge about this disease is essential for the surgeons in this region. There is increasing trends of decreasing age of incidence and diagnosis of cholecystitis. Our aim is to evaluate the age of incidence of cholecystitis. Cholecystectomy is treatment of choice of various forms of gall bladder disease.

MATERIAL AND METHOD: This is a retrospective study. Data collected from hospital records of PMCH Patna. All the information regarding patient's age, gender, disease and treatment was gathered.

RESULTS: Most common age group of cholecystitis is thirties and forties. Most common age of diagnosis of cholecystitis in female is 20-30 (29.4%) and 30-40 (27.8%) while in male it is 30-40 (28.125). Average age of cholecystitis in male is 42.40 (SD=15.170) and of female is 38.39 (SD= 13.656).

CONCLUSION: Age of incidence of cholecystitis is gradually decreasing. It may be due to actual incidence or due to early diagnosis or both. Early diagnosis and proper intervention is important for prevention of carcinoma gall bladder.

KEYWORDS : Cholecystitis, Ganga and Brahamputra basin, Cholecytectomy, Supersaturated bile.

INTRODUCTIONS:

Gall stone disease is one of most common GI disease encountered in Ganga and Brahmaputra regions. In this region gall stone disease is bread butter of general/GI surgeons. This region of India is most prone to gall stone disease and related complication. There are various theories about the causation of gall stone disease. Most popular one is fatty, forty, fairy, fertile, female. Single and most advocated treatment for gall stone disease in this region is early cholecystectomy. It is not because of disease proper but because of fear of carcinomatous transformation. There are very high chances of malignant transformation of gall stone disease. Modern modalities of diagnosis have made us able to diagnose the case of gall stone very early. As the patients concern about the disease and its related complication is increasing, aided by modern investigating instruments diagnosis becoming easier at earlier age. Early diagnoses lead to early intervention, this lead to decrease chances of malignant transformation.

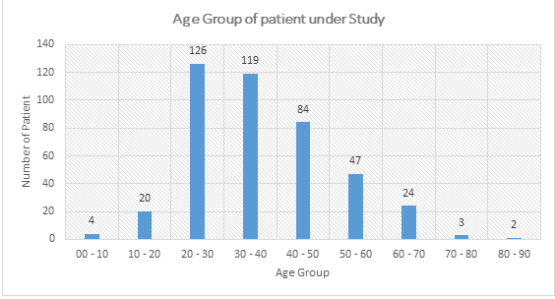
MATERIAL AND METHODS:

This is a retrospective study. Data of all the patients underwent cholecystectomy are collected from hospital records of PMCH Patna Bihar, India. The duration records are in between May 2016 to March 2018. All the information regarding patient's age, gender, disease, USG finding and treatments have been recorded. Data of patients underwent cholecystectomy for various cause have been recorded, excluding the case of cancer GB.

RESULTS:

Data recorded for 524 patients underwent cholecystectomy was between the age group of 2.5 years 88 years. 2.5 years old child was female but 88 old was a male patient. Out of the 524 patients maximum number of patients lies in age group of 20-30 (143) and 30-40 (146).

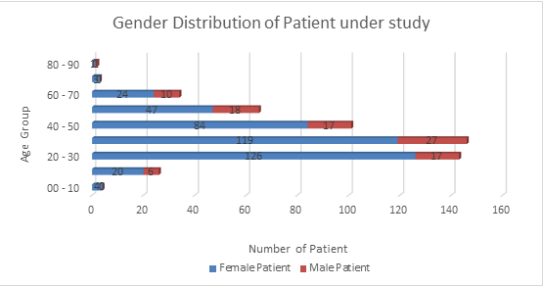
Age Wise Distribution of Patient					
		Frequency	Percent	Valid Percent	Cumulative Percent
Age	00 - 10 Years	4	.8	.8	.8
	10 - 20 Years	26	5.0	5.0	5.7
	20 - 30 Years	143	27.3	27.3	33.0
	30 - 40 Years	146	27.9	27.9	60.9
	40 - 50 Years	101	19.3	19.3	80.2
	50 - 60 Years	65	12.4	12.4	92.6
	60 - 70 Years	34	6.5	6.5	99.0
	70 - 80 Years	3	.6	.6	99.6
	80 - 90 Years	2	.4	.4	100.0
	Total	524	100.0	100.0	



Maximum numbers of female lies in 20-30 (126/428) and 30-40 (119/428) years of age group. While maximum number of male lies in 30-40 (27/96) years of age group.

Sex Comparison with various age group				
		Sex		Total
		Female	Male	
Age	00 - 10 Years	4	0	4
	10 - 20 Years	20	6	26
	20 - 30 Years	126	17	143
	30 - 40 Years	119	27	146
	40 - 50 Years	84	17	101
	50 - 60 Years	47	18	65
	60 - 70 Years	24	10	34

	70 - 80 Years	3	0	3
	80 - 90 Years	1	1	2
Total	428	96	524	



Average age of patent is 39.12 (SD=14.017). Female average age is 38.39 (SD= 13.656) while male average age is 42.40 (SD= 15.170)

Comparison of Mean age and Standard Deviation with Sex			
Sex	Mean	N	Std. Deviation
Female	38.39	428	13.656
Male	42.40	96	15.170
Total	39.12	524	14.017

Total number of female (81.68%) out number male (18.32%).

DISCUSSION

Cholecystits is one of the most common gastrointestinal diseases encountered to GI surgeons / general surgeons in Ganga and Brahmaputra basin (Eastern U P, Bihar, Jharkhand, Orissa, West Bengal and north-east states). It May presents as acute abdomen or chronic abdominal condition.

Cholecystitis is the inflammation of mucosa of gall bladder. It commonly occurs due to blockage of the cystic duct with gall stone, any foreign body and cystic duct stenosis or tissue growth near or inside the duct. This hampers bile flow and stasis of bile inside the gall bladder leading to right upper quadrant pain. Concentrated bile, pressure and sometime bacterial inflammation irritate and damage the gall bladder mucosal wall. This causes inflammation and swelling of the gall bladder causing decreased blood flow to the most distant part of gall bladder (fundus) which can lead to gangrene of this area due to inadequate oxygen supply.

There are multiple factors leading to cholelithiasis although the secretion of bile supersaturated with cholesterol seems to be common feature among all the patients who form cholesterol stone. Variety of pathophysiological events can provide an increase in lithogenicity. Dietary factors particularly in grossly obese leading to an absolute increase in secretion of cholesterol into bile. Occasionally excessive loss of bile pool for example with regional ileitis may decrease the ability of bile salt to solubilize cholesterol[1]. In many others subtle alterations in enterohepatic circulation of bile salt may adversely solubility by both decreasing the secretion of bile salt and increasing the secretion of cholesterol. Regarding its cause supersaturation of bile with cholesterol appears to be a prerequisite for gall stone formation. However additional factors within the gall bladder such as increase secretion of glycoprotein, increase absorption of fluids, infection and stasis appear to contribute the formation of macroscopic stones.

Cholesterol is extremely water soluble as a result cholesterol secretion into bile is highly regulated and once secreted into bile solubility is maintained by cholesterol transporter, understanding the physiochemical relationship between cholesterol and its transporters is a key to understanding gallstone formation. Stone formation requires excess cholesterol secretion into bile which produces cholesterol supersaturation[2]. Many of the epidemiological risk factors for stone formation such as obesity femaleness and ages can now linked to specific abnormality of cholesterol metabolism. Cholesterol supersaturation is necessary but not sufficient for cholesterol crystal formation. Crystallization also required gall bladder motility defect such as mucous glycoprotein or immunoglobulins. The later seems to be stimulated by gall bladder inflammation. Stone growth is final step in stone formation and least well understood. Recent work suggests that cholesterol stone forms as agglomeration of the cholesterol crystal and the pigmentation is secondary.

Acute cholecystitis[3] may lead to empyema gall bladder. The stagnant bile due to cystic duct obstructions in the background of cystic duct stone disease can become infected. Severe infection can caused commonly by E. Coli, Klebsiella, Streptococcus faecalis and anaerobes such as Bacteroids and Clostridia. Pus formation follows these infections, tightly fitting the lumen of gall bladder. In a tense and edematous gall bladder necrosis of wall and perforation ensue. If drainage and removal of gall bladder is not performed properly, if it may not be treated rapidly patient can develop generalize sepsis or gangrene of gall bladder resulting in perforation of gall bladder. Rarely fistula form between gall bladder and duodenum or transverse colon may occur as a sequel e of inadequately treated empyema gall bladder. Untreated case may develop symptoms of localized sepsis due to microperforation or generalized sepsis due to macroperforation.

Gall bladder mucocele (hydrops) refer to an over distended gall bladder field with mucous or clear and watery content. Usually non-inflammatory. It results from outlet obstruction of gall bladder and is commonly caused by an impacted stone in neck of gall bladder or in the cystic duct. Occasionally the gall bladder assumes massive proportion and its volume may reach up to 1.5 liter. The bile or bile pigments are slowly absorbed and continuing secretion from gall bladder mucosa results in clear and watery or mucous contents (white bile). The gall bladder wall may be of normal thickness. Though in long standing case mucosa atrophied and wall become thin some time even transparent. Wall thinning can occur with the recurrent attack of cholecystitis. Contents are usually sterile and any bacterial contamination leads to empyema gall bladder. Gross distension may result in gangrene or even perforation with ensuring peri-cholecystic collection or peritonitis, severity of inflammatory episode detects the clinical presentation.

Prevalence of gall bladder diseases are varied region by region. It is also very different in different parts of India also. Prevalence is very less in southern states but very high in north-east states. Sayeed Unnisa[4] et al conducted their study in 60 villages of Utter Pradesh and Bihar from 22861 persons and interviewed for symptoms of gall bladder diseases (GBD), diet and environmental factors and found the prevalence of 13.32 % (6.62% with symptomatic GBD and 7.12 % asymptomatic) then concluded their study as "a high risk GBD was observed in older, multiparous women, men with diabetes mellitus, high intake of chickpeas, drinking of unsafe water and village with heavy metal water pollution."

Cholethiasis is most common cause of gall bladder cancer[5,6]; it is two times higher in women than men. Gall bladder cancer is leading digestive tract cancer in north Indian women.

Among various etiology of cholelithiasis[7] some are listed here:

- Skipping breakfast and longer interval between two meals.
- Female, fertile, forty, fairy and fatty these populations are more prone
- Certain population is more prone such as north-east Indian, North American and Hispanic etc.
- Cholelithiasis may be hereditary.
- Other risks factors are
- Solid organ transplantation
- Bone marrow transplantation
- Diabetes mellitus
- Gall bladder motor stasis like in pregnancy due to high level of circulating estrogen.
- Cirrhosis of liver, Biliary tract infection
- Hemolytic disease like Hereditary Spherocytosis, Sickle cell anemia for pigmented stones.
- Rapid weight loss

- Prolonged intravenous feeding

In our study there is trend decreasing age of cholecystitis. Total 27.3% patients in the age group 20-30 while 27.9% patients in 30-40 age group. Percentage of female in age group20-30 is 29.4% (126/428) while in 30-40 is 27.8% (119/428). Percentage of male is highest in 30-40 age group 28.125% (27/96). In male forties is most common age group while in female it thirties and forties both.

Female is more commonly affected by this gall bladder disease[8]. In our study female was 81.68% and male was 18.32 %.

Most common complain of the patient is right upper abdominal pain associated with nausea.

GB stone can be diagnosed easily by ultrasonography (USG)[9]. In USG gall bladder stone shows posterior acoustic shadow. Thanks to modern diagnostic modality through which gall stone can be diagnosed easily and early. Earlier it was thought that GBD is diagnosed in forties, in our study male if in forties but female lies in thirties. With the use modern investigating modalities, it is becoming easier to diagnose disease at early stage. A child of age 2.5 years have been diagnosed as acute calculus cholecystitis.

Treatment is only surgical. Some have tried medical management but it is not successful. In Ganga and Brahmaputra[10], basin because of high chances of cancer transformation early cholecystectomy is being done. Cholecystectomy may be open or laparoscopic. Depending upon availability of instrument laparoscopic or open method is preferred.

CONCLUSION:

Age of incidence of cholecystitis is gradually decreasing. It may be due to actual incidence or due to early diagnosis or both. Early diagnosis and proper intervention is important for prevention of carcinoma gall bladder. Extensive study with larger sample size is needed for this study to generalize the data of decreasing age of calculus cholecystitis.

REFERENCES:

1. Laura M. Stinton and Eldon A. Shaffer. Epidemiology of Gallbladder Disease: Cholelithiasis and Cancer. Gut Liver. 2012 Apr; 6(2): 172–187
2. E. Setoudeh Maram, PhD; Dimitrios A. Linos, MD; Johnson L. Thistle, MD; The Incidence of Cholelithiasis and Cholecystitis in Rochester, Minn, 1950 through 1969. Arch Intern Med. 1990;150 (9):1833-1836.
3. Elizabeth Fialkowski, Dr Valerie Halpin. Dr Robb R Whinney. Acute cholecystitis. BMJ Clin Evid. 2008; 2008: 0411.
4. Sayeed Unisa, Palepu Jagannath, Vinay Dhir, Chiranjeeva Khandelwal, Lalatendu Sarangi, and Tarun Kumar Roy. Population-based study to estimate prevalence and determine risk factors of gallbladder diseases in the rural Gangetic basin of North India. HPB (Oxford). 2011 Feb; 13(2): 117–125.
5. Laura M. Stinton and Eldon A. Shaffer. Epidemiology of Gallbladder Disease: Cholelithiasis and Cancer. Gut Liver. 2012 Apr; 6(2): 172–187.
6. Imran Khan, Nilanjan Panda, Manju Banerjee, and Ruchira Das. Epidemiological Factors in Gall Bladder Cancer in Eastern India-A Single Centre Study. Indian J Surg Oncol. 2013 Mar; 4(1): 67–72.
7. Jagannath Dev Sharma, Indrajit Kalita, Tonmoy Das, Papari Goswami, Manigreeva Krishnatreya. A retrospective study of post-operative gall bladder pathology with special reference to incidental carcinoma of the gall bladder. International journal of research in medical science. Vol. 2 Nov (2014).
8. V Jayanthi, R Prasanthi, G Sivakaumar, R Surendran, Usha Srinivas, Sunil Mathew, S Rajakumar, C Palanivelu, A Ramesh, K Prabhakar, G Subramanian, B Ramathilakam, S Vijaya. EPIDEMIOLOGY OF GALLSTONE DISEASE - TOPLINE FINDINGS. BOMBAY HOSPITAL JOUNAL. 1999_4103_july 99.
9. M S KHUROO, R MAHAJAN, S A ZARGAR, G JAVID, AND S SAPRU. Prevalence of biliary tract disease in India: a sonographic study in adult population in Kashmir. Gut, 1989, 30, 201-205
10. Ruhi Dixit. Vijay Kumar Shukla. Why Is Gallbladder Cancer Common in the Gangetic Belt? Researchgate August 2014.