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"INTRAOPERATIVE STUDY OF PREVALENCE OF AMPULLARY STENOSIS IN PATIENTS UNDERGOING COMMON BILE DUCT EXPLORATION FOR CHOLEDOCHOLITHIASIS"

General Surgery

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ABSTRACT

BACKGROUND- Ampullary stenosis is a structural abnormality with partial or complete narrowing of sphincter of Oddi thought to be the result of chronic inflammation of sphincter and fibrosis.**MATERIAL AND METHODS-**The present work has been done on 40 patients admitted in Upgraded Department of surgery, Darbhanga Medical College and Hospital, Laheriasarai. intraoperative prevalence of ampullary stenosis was calculated based on the above data. The diagnosis of Choledocholithiasis with or without cholelithiasis was made based on detailed history, through physical examination, radiological investigation in addition to biochemical investigation and operative findings. Study was conducted on patients with common bile duct exploration. An Intraoperative appraisal of ampullary stenosis was done by unsuccessful negotiation of 3mm size dilator after common bile duct exploration and removal of stones. A detailed record of every case was maintained carefully in the Performa.**CONCLUSION-** There is a wide variation in the prevalence rate of ampullary stenosis in the literature reported till date. Such wide variation may be the due to development of spasm of sphincter of Oddi, presence of duodenal diverticulum and or impacted stones at the ampulla which can be easily confused with the stenosis of ampulla.Female to male ratio of occurrence of ampullary stenosis is 4.5:1 Ampullary stenosis is most prevalent in 4th and 5th decades of life. Pain abdomen is the most common presenting symptom of patients Clinical and biochemical parameters in combination are the best predictors of choledocholithiasis.

KEYWORDS

Choledochochlithiasis, sphincter of oddi,ampullary stenosis.

INTRODUCTION-

Ampullary stenosis is a structural abnormality with partial or complete narrowing of sphincter of Oddi thought to be the result of chronic inflammation of sphincter and fibrosis. Since it is not to always possible functional condition from subtle structural changes, the term sphincter of Oddi dysfunction is used to define motility abnormalities caused by sphincter of Oddi stenosis (a term used interchangeably with ampullary stenosis) and of Oddi dyskinesia.Choledocholithiasis is the most common cause of Ampullary stenosis, based on the premise that chronic passage of stones through the ampulla incites inflammatory reaction which leads to fibrosis and subsequent stenosis. In addition to Choledocholithiasis, endoscopicinstrumentation/ manipulationtrans ampullary passage of cholesterol crystal, juxta papillary duodenal diverticula and pancreatitis are possible cause of Ampullary inflammation and thus of stenosis. Pathological involvement of the hepatopancreatic confluence has remained surrounded by the controversy. The present appraisal of literature world suggest that the only non-controversial thing in this field is that bile and pancreatic juice empty into the duodenum. However, At one time even this idea was in question. Prior to Vesalius (1543) the common bile duct was thought to empty into the fundus of stomach. Many authors doubted even the existence of the hepatopancreatic ampulla and of its sphincter mechanism. Later, controversy spilled over to whether inflammatory lesion of this region occurs and if it is, such an involvement has any role to play in the development of symptomatology in the patients. These contentions severely impeded the research and study of detailed pathophysiology of this region. This is perhaps the reason why it took almost a century after the proposed anatomical description to delineate the sound pathological basis of sphincter of Oddi dysfunction.

The first indirect but firm evidence to the existence of functional distal common duct involvement came when it began to be realized that not all patients who had undergone cholecystectomy and persisted with preoperative symptoms after surgery could be explained solely on the presence of gross obstructing lesion found at the time of surgery. For that there were many patients who did not have any such identifiable lesions at the time of cholecystectomy. An instant interface was drawn that removal of a Gall bladder in some manner or other was the responsible cause. Many theories were propounded, only to be refuted later, that gall bladder has got the equilibrating effect on the physiologic function of hepato-pancreato-biliary region and removal of it disturbs this delicate balance particularly in those who underwent cholecystectomy on a presumptive diagnosis of cholecystitis. In a majority of them who had persisted with their symptoms after surgery there were no stones found later on. However, many astute scientists started lending their thought on this region and strongly supported the idea that functional disorder of Oddi's sphincter is more a fact then fancy. However, for want of an objective investigational modality that could reproducibly and reliably document such changes, they also remained unsure of their own proposition. Many investigational modalities were tried but they all suffered from the same demerit of being poor in reproducibility. The lack of well characterizing pathophysiology helped propping up of several confusing terms like Odditis, sphincter of Oddi stenosis, post cholecystectomy syndrome, sphincter hypotonia, sphincter of Oddi dyskinesia etc., to explain the symptoms of importunate pain following cholecystectomy reportedly arising from failing sphincter of Oddi. The drawback of these nomenclatures was their imprecise definition and being not backed up by firm scientific or experimental data.Ina bid to demonstrate the functional disorder impeding bile flow sequential cholecystography and provocation emHowever, these tests were successful only infewofthe,patients.

MATERIALAND METHODS-

The present work has been done on 40 patients admitted in Upgraded Department of surgery, Darbhanga Medical College and Hospital, Laheriasarai. intraoperative prevalence of ampullary stenosis was calculated based on the above data. The diagnosis of Choledocholithiasis with or without cholelithiasis was made based on detailed history, through physical examination, radiological investigation in addition to biochemical investigation and operative findings. Study was conducted on patients with common bile duct exploration. An Intraoperative appraisal of ampullary stenosis was done by unsuccessful negotiation of 3mm size dilator after common bile duct exploration and removal of stones. A detailed record of every case was maintained carefully in the Performa. A detailed history warecorded in every case. To begin with age, sex, religion, education, socio-economic status, and residential address were noted. Based on the chief complaints, history of present illness elicited carefully note the onset of various symptoms, In general examination pulse, blood pressure, respiration, temperature, jaundice, anemia, cyanosis, and evidence of dehydration were recorded in all cases. Abdominal findings were noted in detail especially, presence of any lump in the right hypochondrium, tenderness etc. any incidental finding if found was noted.

RESULTS-

The above table shows age distribution of patients included in the series. It is clear that biliary pathology can affect any age group and most concentration of patients occurs in 30-50years age group patients (28 of 40)70%

AGE GROUP	NO. OF PATIENTS
20-25	4
25-30	6
30-35	6
35-40	7
40-45	8
45-50	7
50-55	0
55-60	2

Table Showing Age Distribution

Table 1bage Distribution Of Patients Found To Have Ampullary Stenosis

AGE GROUP	NO. OF PATIENTS HAVING AMPULLARY STENOSIS
20-25	1
25-30	1
30-35	3
35-40	3
40-45	2
45-50	1
50-55	0
55-60	0

The above table shows ampullary stenosis occurred mainly in 35-45 years age group patients (5 of 9) 55.5%.however, ampullary stenosis can be present in any group patients.

Table 2A Sex Distibution Of Patients In The Series

SEX	NO. OF PATIENTS
MALE	7
FEMALE	33
TOTAL	40

The above table show the clear predominance of female patients 82.5%% with regard to biliary pathology. The female to made ratio is 4.7:1

Table 2 B Sex Distribution Of The Patients Found To Have Ampullary Stenosis

SEX	NO. OF PATIENTS HAVING AMPULLARY STENOSIS
MALE	2
FEMALE	7
TOTAL	9

There is also a female predominance with regard to occurrence of ampullary stenosis (7 of 9)77.7%

Table 2 C Age Distribution Of Female Patients Who Had Ampullary Stenosis At The Time Of Surgery

AGE (YEARS)	NO. OF PATIENTS HAVING AMPULLARY STENOSIS
20-35	2
35-45	5
45-55	NIL
55-60	NIL

As above table shows 71.4% of females patients with ampullary stenosis are in the age group 35-45 years.

DISCUSSION-

The disease entity called sphincter of Oddi dysfunction is a generic term to include both fixed as well as motility disorder of sphincter complex at the hepatopancreatic ampulla. It is true that controversies associated with this region created significant confusion and that crippled its recognition as an important disease process. However, there is also little doubt that we have come of age and fact and fancies have been given due consideration. Undoubtedly, endoscopic manometry played a pivotal role in putting this entity in its right perspective. The work of Hogan and Geenen is notable in this regard. In recent years sphincter of Oddi dysfunction has been the focus of intense research mainly because of its recognition as the development of post cholecystectomy syndrome. If considering the number of cholecystectomy being performed all over the world annually and a reasonable to find that a large number of studies have been done to delineate its pathophysiologic mechanism and treatment of this condition. What were the most lacking is the study devoted to find out the prevalence of occurrence of sphincter of Oddi dysfunction and more so if we pin down to one of its component like ampullary stenosis. It is surprising that this is the most difficult to search save a few. Amongst them, almost all use endoscopic manometry as a principle tool for their research and recommendations that evolves essentially revolves around it. The fact that endoscopic manometry still has a very limited availability and is associated with severe complications and is not free from errors makes it a difficult proposition particularly in developing countries. There is also a lack of consensus with regard to manometric recordings and values received.

My present study principally focuses on the prevalence of occurrence of ampullary stenosis in patients undergoing cholecystectomy with common bile duct exploration mainly for choledocholithiasis. This approach has been adopted with twin purpose in mind. The first being the calculation of prevalence of disease, and second being the management of patients those having found ampullary stenosis. Knowledge of prevalence helps to understand the probability of diagnosis and make sense of how common is the condition in thosewho,undergocommon duct exploration. Ampullary stenosis sets up the circumstances for the subsequent development of recurrent choledocholithiasis or a variety of symptoms related to this partial obstruction to flow of bile into the duodenum. Biliary-enteric anastomosis like choledochoduodenostomy appears to offer a definitive solution to these problems, as well as the elimination of any chances of development of recurrent common bile duct stones, as is the case in the series. It is prudent not to indulge in blind maneuvers if an obstruction is encountered at the ampulla though impacted stone and duodenal diverticulum could be a real possibility. Persistence in removing such obstacles constitutes a high risk of developing false passage, perforation of the wall of the intrapancreatic portion of common bile duct or traumatizing the pancreas, which can lead to serve acute pancreatitis. Under such circumstances it is natural to consider choledochoduodensotomy especially when common bile duct is dilated as a safe and effective measure.

The present is not without limitation. The major disadvantages being the relatively small sample and the study performed mainly on patients already seeking medical advice in our hospital and as such results of this study can not be extended to whole community unequivocally. Another disadvantage with which this study suffers is in its inability to distinguish beyond doubt between the ampullary stenosis and sphincter of Oddi spasm. Method employed to ascertain ampullary stenosis though effective is crude. A dilator size 3mm is introduced through the ampulla and if obstruction encountered a diagnosis of ampullary stenosis is made. There is very chance that at the time of negotiation of dilator spasm of sphincter of Oddi develops which could be construed as the ampullary stenosis even when it is not present in reality.

CONCLUSION

There is a wide variation in the prevalence rate of ampullary stenosis in the literature reported till date.

Such wide variation may be the due to development of spasm of sphincter of Oddi, presence of duodenal diverticulum and or impacted stones at the ampulla which can be easily confused with the stenosis of ampulla.Female to male ratio of occurrence of ampullary stenosis is 4.5:1 Ampullary stenosis is most prevalent in 4th and 5th decades of life. Pain abdomen is the most common presenting symptom of patients Clinical and biochemical parameters in combination are the best predictors of choledocholithiasis. Choledochoduodenostomy is the most commonly performed biliary enteric anastomosis in patients having diagnosed ampullary stenosis.

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