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Pathology

A HISTOPATHOLOGICAL STUDY OF GIT LESIONS: RETROSPECTIVE STUDY AT RIMS, RANCHI

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ABSTRACT Gastrointestinal tract lesions are commonly encountered. They include a multitude of congenital, inflammatory, benign and malignant diseases ranging from acute appendicitis to chronic cholecystitis and from mesenteric cyst to adenocarcinoma. An insight of the pattern of various GIT diseases in relation to site, age, and type of lesion assists in better comprehension of differential diagnosis for histopathologists. **Material & Methods:** A retrospective study of histopathologically diagnosed cases of 176 GIT lesion patients from January 2021 to June 2021 was undertaken. **Results:** A total 176 cases included 78 male and 98 female, 48% of cases belong to the age group 31 to 60 years. 58% cases were of gallbladder, 13% from ileum and 12.5% cases of appendix. 89% cases were inflammatory/benign, 6% cases were congenital anomalies and the rest 5% were malignant lesions. **Conclusion:** Inflammatory etiology was the most common findings in surgical specimens of GIT. Chronic cholecystitis is the most common disease in GIT surgical specimen, followed by appendicitis and enteritis and adenocarcinoma is the most common malignant disease of the intestine. Hirschprung's disease and Meckel's diverticula were found to be the most common congenital lesions in histopathological specimens.

KEYWORDS : GIT lesions, adenocarcinoma, cholecystitis, appendicitis

INTRODUCTION

Excised specimens from upper and lower gastrointestinal tract are very common histopathological specimens for the definitive diagnosis of various ailments which includes benign, malignant, inflammatory and congenital lesions.

Cholecystitis and appendicitis are the two most common inflammatory diseases of GIT accounting for a bulk of surgical specimens sent for histopathology. The estimated overall prevalence of gallstones is 10–15% in the general population, with some differences across countries. Between 20 and 40% of patients with gallstones will develop gallstone-related complications, with an incidence of 1–3% annually; acute calculus cholecystitis (ACC) is the first clinical presentation in 10–15% of the cases.[1] Appendectomy specimens represent 17 % of all pathological reports.[2]

One of the most common surgical emergencies is perforation peritonitis[3] It is commonly seen in a younger age group in the tropical countries as compared to the studies in the West[4,5].More commonly the perforations involve the proximal part of the gastrointestinal tract[6] this being in contrast to studies from the western countries, where perforations are common in the distal part[7] Etiological factors also show a wide geographical variation. According to a study from India, infections formed the most common cause of perforation peritonitis[8] So most of the perforation specimen are found merely to be inflammatory lesion in microscopy.

Congenital diseases like Hirschprung's disease, Meckel's diverticula and ileal atresia are commonly encountered. Hirschsprung's disease (HD) is one of the diseases that, in the majority of cases, are treated by paediatric surgery. It a congenital condition of intestine innervations leading to a lack of ganglion cells in the area of the Auerbach plexus and Meissner plexus in the distal section of the large intestine[9] The disease prevalence is estimated at the level of 1: 5000 live births.[10] In Meckel's diverticulosis, males are more frequently involved than females, and even preterm infants may be affected. Bowel obstruction (58.3%) and pneumoperitoneum (33.3%) are the most frequent clinical manifestation.[11]

Fistula-in-ano implies a chronic granulating track connecting two epithelial lined surfaces. This may be cutaneous or mucosal[12] Fistulectomy is the current surgical treatment for this disease. Hemorrhoids are the result of the ectasia of the hemorrhoidal vascular plexus and divided into external (outside the anal verge, in the territory of the inferior rectal vessels) and internal (inside the rectum, in the territory of the superior rectal vessels). Thrombosis of external hemorrhoids is frequent.[13]

Globally, colorectal cancer (CRC) ranks third in terms of incidence and second in terms of mortality. In 2018, CRC was the most commonly diagnosed GI cancer across the globe.[14] In contrast , the small intestine which account for 75% of the overall length of the GI tract is an uncommon site for benign and malignant tumors.

MATERIAL AND METHODS:

It was a retrospective record-based study, performed in the Department of Pathology, RIMS, Ranchi. Study Population included all patients whose surgically excised specimen from stomach to anal canal (including gall bladder and pancreas) was sent to the department of pathology from January 2021 to June 2021. By using universal sampling method 176 patients were included in the study. Surgically excised mass as well as incisional biopsy specimens were transferred to a jar containing 10% formaldehyde. Histopathological examination of all the specimens was done by routine paraffin wax sections and was stained by Haematoxylin and Eosin (H&E). The epidemiological data in terms of age, type and site of specimen and histopathological findings were compared.

RESULT AND DISCUSSION:

Our present study of 176 cases included 78 males (44%) and 98 females (56%).

Table – 1 Age- Wise Incidence

Age group (years)	Male	Female	Number of cases
<1	8	2	10
1-15	11	10	21
16-30	10	24	34
31-45	20	26	46
46-60	18	30	48
>60	11	6	17
Total	78	98	176

Mean age of cases was 37 years. 48% of cases belong to the age group 31 to 60 years. Youngest patient in our study was 3 days old whereas the oldest patient was 72 years old. Mean age for malignant lesions was found to be 49 years.

Maximum number of specimens were from Gall bladder 102 (58%), followed by small intestine 27 (15%) and from appendix were 22 (13%) and consisted of 157 inflammatory/benign, 10 congenital and 9

malignant lesions.

Table – 2 Site-wise Distribution Of Cases

Site	Congenital	Inflammatory/ Benign	Malignant	Total
Stomach	0	0	1	1
Duodenum	0	0	1	1
Ileum	4	17	2	23
Jejunum	0	3	0	3
Colon+rectum	5	8	2	15
Gallbladder	1	100	1	102
Pancreas	0	1	0	1
Appendix	0	22	0	22
Omentum	0	1	2	3
Anal canal +Perineal region	0	5	0	5
Total	10	157	9	176

Table – 3 Disease- Wise Distribution Of Cases

Disease	Number of cases
Chronic Cholecystitis	100
Enteritis	17
Chronic Appendicitis	11
Adenocarcinoma	9
Acute Appendicitis	8
Hirschprung's disease	7
Colitis	3
Anal Fistula	3
Tuberculosis	2
Hemorrhoids	2
Meckel's diverticulum	2
Ileal Atresia	2
Ulcerative Colitis	1
Chronic Pancreatitis	1
Choledochal cyst	1
Mesenteric cyst	1

Chronic Cholecystitis was the most common diagnosis overall for 57% cases. and Average age for Gallbladder disease in males was found to 47.5 years, in females 41.3 years and overall 42.9 years. Male female ratio in the cases of chronic cholecystitis was found to be 1:3.7. Arora et al. found in their study a male-to-female ratio of 1:8.5. The average age was 44.4 years (range: 12–79 years) with a slightly higher mean age in males (45.77 years) as compared to females (44.23 years).[15]

11% of all GIT specimens were cases of appendicitis. Average age for appendicitis was found to be 27 years (males 26 years and for females 28 years). The age difference between genders is not found to be significant. No signignificant pathology was seen in 4% of cases. Charfi et al found in their study: Male female ratio in the cases of appendicitis to be 1.1:1, appendectomy specimens represented 17 % of all pathological reports and the negative appendectomy rate was 15 %.[16]

Congenital diseases like Hirschprung's disease, Meckel's diverticula and ileal atresia etc. comprised 7% of all cases. Hirschprung's disease was the most commonly encounterd conenital condition requiring surgical intervention and histopathological confirmation.

Inflammatory lesions were also common findings in perforation specimens. 10% specimens were cases of Enteritis.

Among 9 cases of adenocarcinoma of GI tract, male:female ratio was found to be 7:2 (male predominant) and site-wise distribution was found in colorectum and ileum (2 cases each), 2 cases of omental metastasis and 1 case of gallbladder adenocarcinoma.

CONCLUSIONS:

Chronic Cholecystitis was the most common disease diagnosed among GIT histopathological specimens followed by appenditicitis. Chronic Cholecystitis occured four times more commonly in females than males and was predominantly seen in middle age group. Incidence of appendicitis was nearly equal in both sexes. Congenital anomalies was found in 7% of cases. Adenocarcinoma was the commonest malignant disease of GIT found in 5% cases only.

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