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Patterns of Upper Gastrointestinal Endoscopy Finding in a New Medical College, Mizoram, N.E India.

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Introduction*: Patients with pain upper abdomen constitute majority of patients referred for Upper Gastrointestinal (UGI) Endoscopy. With the invention of fiberoptic flexible endoscopy, upper GI endoscopy has become easily available, safe and reliable procedure. With further advancements in narrow band imaging and chromoendoscopy, precision of biopsy techniques and diagnosis has been significantly increased. The aim of this study was to find out various patterns of UGI Endoscopy finding among patients in our Endoscopy centre.*
Materials and Methods: *This study comprised of 5910 patients referred from various departments to our Endoscopy centre, who had undergone UGI Endoscopy during the period of 2 years at Zoram Medical College starting from November 2017 to October 2019. All patients referred for Endoscopy were included. Age ranges from 8 years to 92 years old. UGI Endoscopy was performed by Endoscopist/Surgeons in all patients as a primary diagnostic investigation and interpretation of the findings as observed by a single observer was noted, recorded and reported. Endoscopic biopsy was taken when indicated. H. pylori tests were done in almost all the cases.*
Results: *The most common finding was Erosion/Erythema in Gastric Antrum/Fundus (57.87%) followed by erosion/erythema in lower esophagus (17.96%) and Duodenitis in 10.25%. Biopsy was taken from ulcers/growths/polyps/erosions in 402 (6.80%) cases out of which 81 (1.37%) cases were found malignant. Esophageal Varices was seen in 138 patients where Variceal ligation was done in 103 cases. Helicobacter pylori infection was found in 1475 (24.95%) of cases.*
Conclusion*: We conclude that UGI Endoscopy plays an important role in patients with abdominal pain. Investigation for H. pylori should be considered for all patients undergoing endoscopy. Biopsy should be taken from any suspicious lesions.*

Key words: *Endoscopy, Erosions/Erythema, Ulcers, Helicobacter pylori, Malignancy, Varices.*

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I. Introduction

Patients with pain upper abdomen constitute majority of patients referred for UGI Endoscopy. Although a detailed history and physical examination may help to arrive at diagnosis, most of the times it is difficult to do so considering the complexity of the abdominal anatomy. Routine investigations only have a subordinate role and results of Ultrasonography are limited by intestinal gas[1]. With the invention of fiberoptic glasses flexible endoscopy, upper GI endoscopy has become a safe, reliable and office procedure. With further advancements in narrow band imaging and chromoendoscopy, precision of biopsy techniques and diagnosis has been significantly increased[2]. Discovery of role of Helicobacter pylori in the pathogenesis of gastric and duodenal ulcers was a breakthrough in the treatment of these lesions. Since then a variety of invasive and non-invasive tests are available to diagnose Helicobacter pylori infection[3].

Endoscopy is a sensitive diagnostic test for peptic ulcers. Endoscopy was more sensitive (92%vs 54%) and more specific (100%*vs* 91%) than radiographic examination[4]. The main role of Endoscopy in patients with uncomplicated peptic ulcer diseases is to confirm the diagnosis, identify lesions too small to be detected by radiolographic examination and to rule out malignancy by performing endoscopic biopsy[5].

Helicobacter *pylori* bacteria is a fastidious and microaerophilic gram-negative bacteria that colonizes human gastric mucosa[6]. Barry Marshall and Robin Warren established its role in peptic ulcer disease; it affects 50% of the world population[7]. It colonizes the gastric mucosa during childhood and usually remains asymptomatic. It causes peptic ulcer disease and gastric malignancy in 10-15% of infected patients. Close person to person contact is the mode of transmission and it is transmitted by feco-oral and oro-oral routes[8].

Carcinoma stomach is the second most common cancer mortality worldwide accounting for almost 10% of all new cancer deaths, the overall 5yr survival rate in these patients is less than 25% which reflects the

late stage at which so many patients present[9]. Symptoms of gastric cancer in the early stage are covert and do not differ from those found in dyspepsia[10]. Early detection and treatment will improve favourable outcome, the role of lifestyle and dietary factors are being investigated and proved to be pivotal in causing gastric cancer[11]. The aim of this study was to find out various patterns of Upper GI Endoscopy Findings among our patients.

II. Materials And Methods

This prospective observational study was conducted in the department of Surgery Endoscopy centre, State Referral Hospital of Zoram Medical College, Falkawn, and LRM Hospital, Aizawl, Mizoram during the period of two years starting from November 2017 to October 2019. All patients referred for UGI Endoscopy totaling **5910** consecutive cases were included; their age ranges from 8years to 92 years old. Before taking up the study, approval for carrying out the research work was obtained from the Hospital Ethical Committee. Informed Consent was taken for each case.

After explaining the procedure, patient was premedicated by spraying oropharynx (10% Lignocaine) with or without sedation by Inj. Midazolam 2mg i.v just before the procedure. Upper GI Endoscopy (EsophagoGastroDuodenoscopy) was performed by Endoscopist/Surgeons in all subjects as a primary diagnostic investigation and interpretation of the findings as observed by a single observer was noted, recorded and reported,

Four to six pieces of tissues was taken for biopsy using biopsy forcep from ulcers/growth/polyps or any suspicious abnormal findings of any sites, kept in formalin vial and sent for histopathological examination to Pathology department, reports were collected and recorded.

Helicobacter *pylori* test was done using RUT (Rapid Urease Test) DRY test in almost all the cases. The test kit was stored at room temperature and not be freeze. A small mucosal tissue was taken from gastric Antrum near pyloric orifice using Endoscopic biopsy forcep. The standard biopsy size is 2-3mm diameter. Test kit label was peeled back and tissue was introduced in the exposed yellow media and one drop of distilled sterile water was added. After covering sticker as before, the color change from yellow to pink or red was noted as positive for H. *pylori*. Reading was done within 2 to 10 minutes by observing color change from yellow to pink or red. The other endoscopic findings were also noted, recorded and reported.

III. Results And Observations

This study includes all patients referred to our Endoscopy centre of varying ages ranging from 8yrs to 92yrs of age with the maximum number in the age groups of 31-40 yrs of as shown in the table. We had 3 cases of below 11 years old– 8yrs, 9yrs, and 10 yrs each and two 2 cases of more than 90yrs old – 91yrs and 92 years.

Table I: Age group distribution.

Age group	No. of patients	Percentage
< 20 yrs	532	9 %
21-30	1300	22 %
31 -40	1418	24%
41 -50	1123	19%
51 -60	709	12%
61 -70	473	8%
71 -80	296	5%
>80 yrs	59	1%
Total	**5910**	**100%**

Bar chart I showing age distribution.

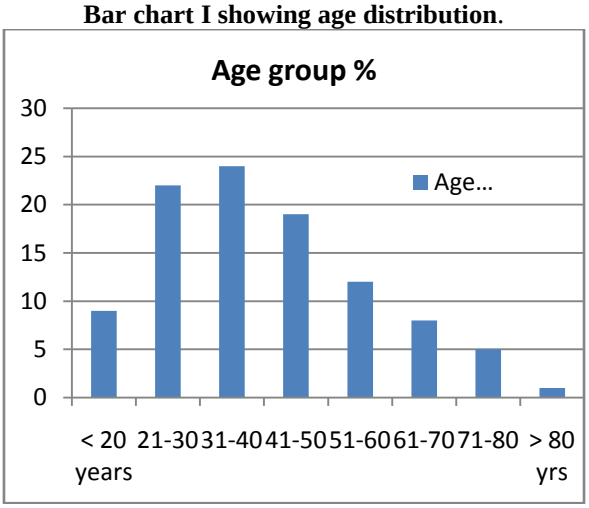


Table II: Sex distribution

Sex Distribution	No. of Patients	Percentage
Male	3220	54.48%
Female	2690	45.52%
Total	**5910**	**100%**

This study comprises of 54.48% male and 45.52% females.

Pie chart I showing sex distribution.

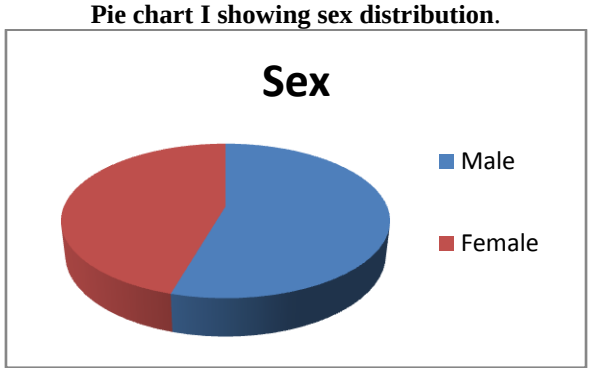
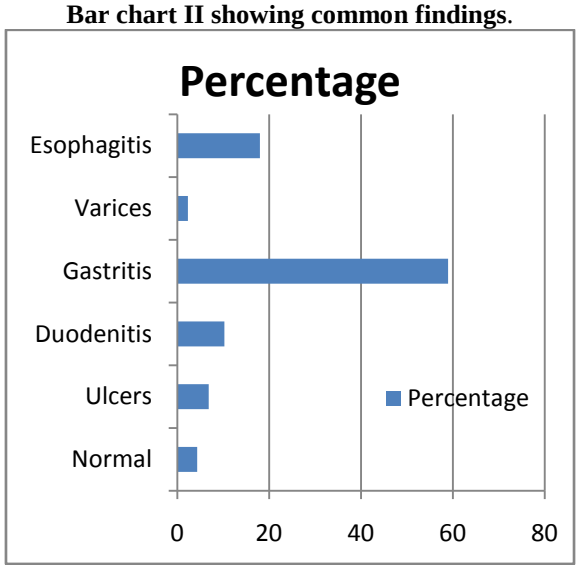


Table III: Endoscopic Findings of common conditions

Sl.no	Endoscopic Findings	No. of patients	Percentage
1	Gastro-Esophageal Reflux Esophagitis (Erosions/erythema)	1062	17.96%
2	Erosive or Erythematous Gastritis (Fundal/Antral/Body)	3485	58.97%
3	Erosive/Erythematous Duodenitis	605	10.25%
4	Biopsy taken from Ulcers/Growths (Esophagus/Stomach/Duodenum)	402	6.80%
5	Esophageal Varices of various grades	138	2.33%
6	Normal study	218	3.69%
	Total	**5910**	**100%**

Bar chart II showing common findings.

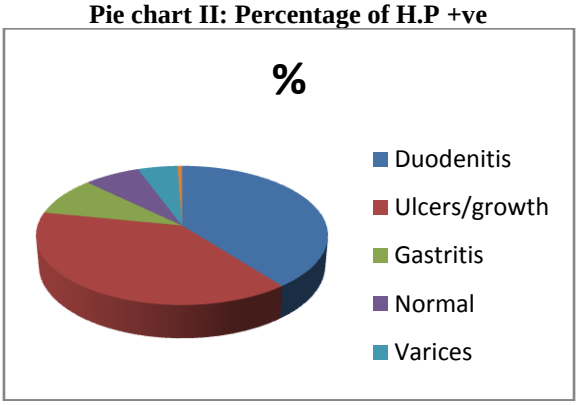


In our study, the most common finding which constituted 58.97% was erosive/erythematous Gastritis of any parts of stomach which may be fundal/body/antral gastritis. It was followed by erosion/erythema in the lower Esophagus (Esophagitis) which constituted 17.96%. Duodenitis (erosive/erythematous) was found in 10.26% whereas ulcer or growth of any sites were seen in 6.80% where biopsy was taken. Esophageal Varices was seen in 138 cases (2.33%) out of which Variceal Ligation was done in 105 cases. We report normal endoscopic study in 218 cases which constituted 3.69% of the total cases seen in our centre.

Table IV: Endoscopy findings and H.P positive cases.

Endoscopy Findings	**No Cases and its Percentage**	**No of H.P Positive**	**% of H.P positive**
Gastro-Esophageal Reflux Esophagitis (Erosions/erythema)	1062 (17.96%)	12	(1.12%)
Erosive or Erythematous Gastritis (Fundal/Antral/Body)	3485 (58.96%)	632	(18.13%)
Erosive/Erythematous Duodenitis	605 (10.23%)	476	(78.67%)
Ulcers/Growths/Polyps etc (Esophagus/Stomach/Duodenum) from where Biopsy taken	402 (6.80%)	310	(77.11%)
Esophageal Varices of various grades	138 (2.33%)	14	(10.14%)
Normal study	218 (3.69)	31	(14.22%)
Total	**5910**	**1475**	**~(24.95%)**

Pie chart II: Percentage of H.P +ve



The overall positive cases of Helicobacter *pylori* test was 1475 (24.95%). It was found that **majority of patients with Duodenitis (78.67%) and Ulcers of stomach (77.11%) were found to be positive for H. *pylori* thereby underlying its significance in their etiology**. This shows the higher association of H. *pylori* infection in the development of ulcer/growth and Duodenitis. In cases of reflux esophagitis alone, only 12 cases out of 1062 (1.21%) were found positive. Most of the cases were tested for Helicobacter *pylori* except in few cases of Esophageal Varices for fear of bleeding due to mucosal tear, out of 138 cases of Esophageal Varices, 14 cases (10.14%) were found to be H. *pylori* positive, 18.13% (632/3485) cases of Gastritis and in 218 normal study cases, 31 cases (14,22%) were found to be H. *pylori* positive.

Table V: Biopsy and Malignancy

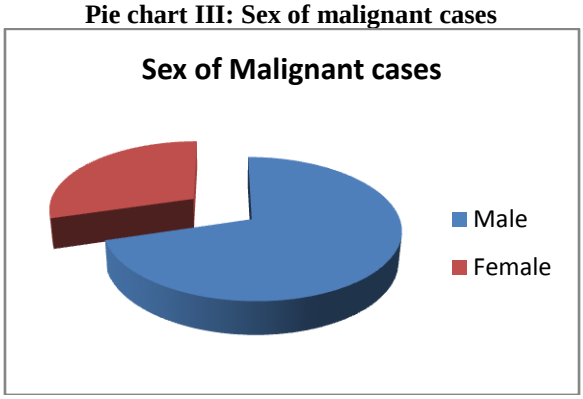
Biopsy and Sites of Malignancy		**No. of patients**	**Percentage of total 5910 cases**
Ulcers/Growths (Esophagus/Stomach/Duodenum) From where Biopsy taken		402	6.80%
Malignancy confirm from Biopsy (HPE)		**81**	**1.37%**
Malignant Ulcer/growth in esophagus		40	0.67%
Malignant Ulcer/ growth in Stomach	Proximal Gastric	8	0.18%
	Distal Gastric	33	0.55%

Out of total 5910 endoscopy cases, biopsy was taken from 402 patients and out of which, 81 patients were found to be Malignant case. Out of 81 malignant cases, 40 cases were esophagus and 41 (33+8) were stomach. It was found more in Male than Female (57:24). The majority of malignant cases were seen in older age group above 50yrs of age.

Table VI: Sites and Sex: Malignancy cases (81 out of 4910 = 1.37%).

Sites	**Male**	**Female**	**Total**
Esophagus	31	9	**40**
Proximal Stomach	5	3	**8**
Distal stomach	21	12	**33**
Total	**57**	**24**	**81**

Pie chart III: Sex of malignant cases



Pie chart IV: Sites of Malignancy

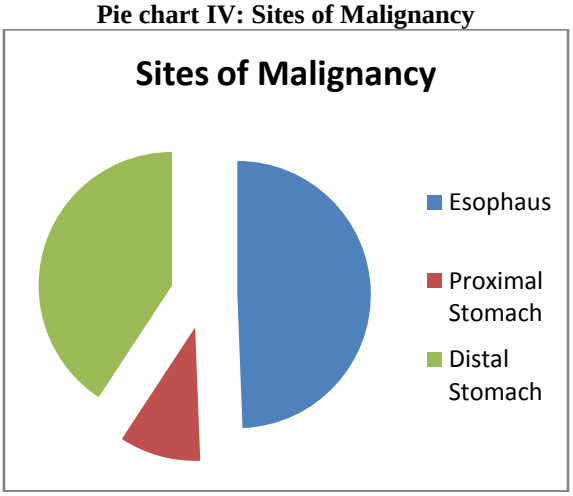
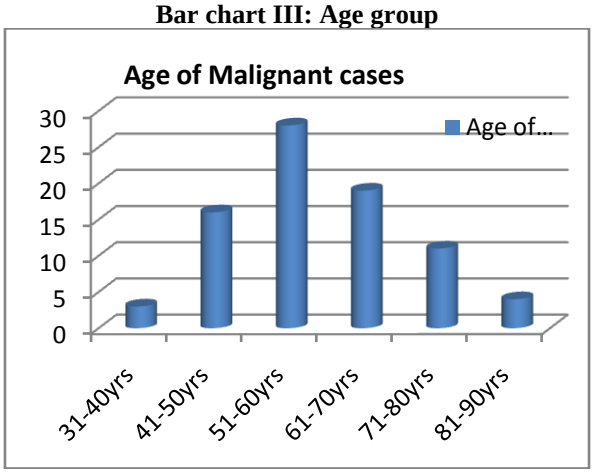


Table VII: Age distribution of malignancy

Age gr	Male	female	Total
31-40	2	1	3
41-50	12	4	16
51-60	**18**	**10**	**28**
61-70	13	6	19
71-80	9	2	11
81-90	3	1	4
Total	**57**	**24**	**81**

Bar chart III: Age group



Out of 81 cancer cases, 40 cases were esophagus and 41 (33+8) were stomach. It was found more in Male than Female (57:24). The majority of cases were seen in older age group above 50yrs of age.

IV. Discussion

This present study showed that majority of patients referred for Endoscopy in our centre were aged between 31 and 50 years and males are found to be more than females. These findings may be attributable to increased work place stress, untimely food intake habits and consumption of spicy food, alcohol intake and smoking. This has a significant impact on their work in terms of absence from work and decrease in income.

In our study, the most common finding which constituted 58.97% was erosive/erythematous Gastritis of any parts of stomach which may be fundal/body/antral gastritis. It was followed by erosion/erythema in the lower Esophagus (Esophagitis) which constituted 17.96%. Duodenitis (erosive/erythematous) was found in 10.26% whereas ulcer or growth of any sites were seen in 6.80% where biopsy was taken. Esophageal Varices was seen in 138 cases (2.33%) out of which Variceal Ligation was done in 105 cases. We report normal endoscopic study in 218 cases which constituted 3.69% of the total cases seen in our centre.

The overall positive cases of Helicobacter *pylori* test was 1475 (24.95%). It was positive in 78.67% cases of Duodenitis, 77.11% cases of Ulcer/growth, 18.13% cases of Gastritis, and also in 14.22% of normal endoscopic finding. This shows the higher association of H. *pylori* infection in the development of ulcer/growth and Duodenitis. The prevalence of Biopsy taken H. *pylori infection* is high, ranging from 20.6% to 73% in haemodialysis patients[12]. Another study shows H. *pylori* was detected in 62.5% of the patients with gastroduodenal lesions and it is the single most factors for dyspepsia in uremic patients[13]. There are studies showing lower prevalence of HP in Chronic Kidney Disease patients[14,15]. This has a negative impact in the survival of Helicobacter *pylori*[16]. In another study[17], endoscopic findings were abnormal in 63% patients with CKD showing antral gastritis in 42% and Duodenitis in 24% which is in concordance with our findings. Our study has shown that H. *pylori* association is significantly high in gastric and duodenal lesions which is consistent with other research studies[18,19].

In our series, the total incidence of carcinoma of esophagus and stomach was 1.37% (81) from all the cases with the peak incidence in 6th decade. Out of total 5910 endoscopy cases, biopsy was taken from 402 patients and out of which, 81 patients were found to have cancer positive. Out of 81 cancer cases, 40 cases were esophagus and 41 (33+8) were stomach. It was found more in Male than Female (57:24). The majority of cases were seen in older age group above 50yrs of age.

Upper GI Endoscopy is cost effective in long term management of chronic upper abdominal pain[20]. It is considered as gold standard for diagnosing gastric and duodenal ulcers[21,22]. It is also safe and useful in paediatric and adolescent patients[23,24].

V. Conclusion

We concluded that UGI Endoscopy plays an important role in patients with abdominal pain. Because of its precision and relatively safe technique, UGI Endoscopy may be considered in all patients with complaints of persistent pain in upper abdomen. It not only helps in diagnosing the pathology but also provides an opportunity to do therapeutic interventions and helps to delineate the extent of pathology. Investigation for H. *pylori* should be considered for all patients undergoing endoscopy especially to those found to have gastric or duodenal lesions as its association with these lesions are high. Subjecting patients early to endoscopy helps to detect the malignancy in early stage and has a significant positive impact on their treatment.

References

[1]. Kasznia BJ and Karnati G: Imaging of the upper gastrointestinal tract; endoscopy or radiology? Br. J. Hosp. Med. (Lond). 2011; 72(3): M39-M43.

[2]. Alina B, Cristian B and Silvia D: Narrow band imaging with magnifying endoscopy for the evaluation of gastrointestinal lesion, World Gastrintest Endosc. 2015, Feb. 16; 7(2): 100-120.

[3]. O'Connor H: The role of Helicobacter pylori in peptic ulcer disease. Scand J Gastroenterol Suppl, 1994; 2011-15.

[4]. Jia-Qing H, Subbaramiah S and Richard HH: Role of Helicobacter pylori infection and non-steroidal anti-inflammatory drugs in peptic-ulcer disease; a meta-analysis. Lancet, 2002; 359: 14-22.

[5]. Richard GL III, Nicholas J and Talley J: Prevalence and clinical spectrum of Gastro esophageal Reflux; a population based study on Olmsted County, Minnesota, Gastroenterology, 1997; 112: 1448-56.

[6]. Esebei LH and Zugari RM: Epidemiology of Helicobacter pylori infection. Helicobacter, 2014; 14: 1-5.

[7]. Goh KL, Chan WK, Shiota S and Yamaoka Y: Epidemiology of Helicobacter pylori infection and public health implication: Helicobacter, 2011; 16 (1): 1-9.

[8]. Diaconu S, Predescu A, Moldoveanu A, Pop CS and Fierbinteanu-Braticevici C: Helicobacter pylori infection: Old and New. J. Med. Life, 2017; 10:112-117.

[9]. Crew K, Neugut A: Epidemiology of gastric cancer. World Journal of Gastroenterology, 2006; 3(12):354-62.

[10]. Tan Y and Fielding J: Early diagnosis of early gastric cancer. European Journal of Gastroenterology & Hepatology, 2006; 18(8): 821-9.

[11]. Nagini S: Carcinoma of the stomac; A review of epidemiology, pathogenesis, molecular genetics and chemoprevention. World Journal of Gastroenterology. 201; 4(7): 156-8.

[12]. Luzza F, Imeneo M and Maletta M: Helicobacter pylori specific IgG in chronic hemodialysis patients: relationship of hypergastrinemia to positive serology, Nephrol Dial Transplant, 1996; 11: 120-4.

[13]. Khemat H, Ahmadzad-Asl M and Amini M: Gastroduodenal lesions and Helicobacter pylori infection in uremic patients and renal transplant recipients. Transplant Proc. 2007; 39(4): 1003-7.

[14]. Sugimoto M, Sakai K, Kita M, Imanishi J and Yakamaoka Y: Prevalence of HP infection in long-term HD patients. Kidney Int, 2009; 75(1): 96-103.
[15]. Chang SS and Hu HY: Lower HP Infection rate in chronic kidney disease and end stage renal disease patients with peptic ulcer disease. J. Clin. Med. Assn. 2014; 77: 354-9.
[16]. Hwang IR, Kodama T and Kikuchi S: Effect of interleukin 1 polymorphisms on gastric mucosal interleukin 1 beta production in Helicobacter pylori infection. Gastroenterology, 2002; 123: 1793-803.
[17]. Ganaye MT and Sheikh JM: Prevalence, endoscopic and histopathological features of HP infection in chronic kidney disease versus normal population at a Tertiary Care Center in North India. Int. J. Adv. Res. 2016; 14(11): 1902-7.
[18]. David Y and Graham: History of Helicobacter pylori, duodenal ulcer and gastric cancer. World J Gastroenterol. 2014; 20(18): 5191-204.
[19]. John B et al.: Prevalence of H. pylori in peptic ulcer perforation. Int Surg J, 2027; 4(10): 3350-3.
[20]. Working party of the clinical services committee of the British Society of Gastroenterology: provision of gastrointestinal endoscopy and related services for a district general. Gut, 1991; 32: 95-101.
[21]. Eisen GM, Dominitz JA, Faigel DO, Goldstein JA, Kalloo AN, Petersen BT, Raddawi HM, Ryan ME, Vargo JJ, Young HS, Fanelli RD, Hyman NH and Wheeler HJ: American Society for Gastrointestinal Endoscopy. The role of endoscopy in dyspepsia. Gastrointest Endosc. 2001; 54(6): 815-7.
[22]. Ukarpol N, Lertprasertsuk N and Wongsawasdi L: Recurrent abdominal pain: the utility of upper GI Endoscopy and histopathology. Singapore Med Journal, 2004; 45(3): 121-4.
[23]. Kumar M: Endoscopic, Histologic and Microbiologic evaluation of upper abdominal pain with special reference to Helicobacter pylori infection. Ind. Pediatr. 1996; 33(11): 905-9.
[24]. Tom Richard Okello: Upper gastrointestinal endoscopic findings in adolescents at Lacor hospital, Uganda, Afr Health Sci. 2006; 6(1): 39-42.

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