

Effect of *H. pylori* infection on Endoscopic and gastric histopathological view in dyspeptic patients in Thi-Qar 2018

Assist. Prof Dr. Haider M. AL Yasiri¹, Lecturer Ali KADHIM SHWAYEL AL-SAEEDI², FADHEL ABBAS³, WIDAD HUSSEIN⁴, BARAA DUKHEIL⁵

¹Department of Physiology, College of Medicine, University of Thi-Qar, Iraq.

² MBCHB, DM, FICMS, Ministry of Health, Thi-Qar Health Directory AL Hussain Teaching Hospital, Iraq.

³ College of Medicine, University of Thi-Qar, Iraq.

^{4,5} Ministry of Health, Thi-Qar Health Directory AL Hussain Teaching Hospital, Iraq.

ABSTRACT

Background: Helicobacter pylori related gastritis is a significant wellbeing infirmity in developing nations. There is high bleakness and mortality extending from ceaseless gastritis to gastric malignancies. Commonness of *H. pylori* contamination changes notably from nation to nation and in a nation, locale to area. Point: To contemplate the pervasiveness of *H. pylori* gastritis in patients undergoing endoscopy and its relationship with the advancement of gastrointestinal illnesses.

Subjects and Strategies: The examination was done in Al Hussein Educating Hospital from September 2018 to Walk 2019. 40 Patients giving dyspeptic manifestations were exposed to upper gastrointestinal endoscopy, examined for *H. pylori* contamination through *H. pylori* immune response IgG test, and histopathological assessment done for antral biopsy. Information examination was completed utilizing SPSS.

Results: *H. pylori* disease was analyzed in 57.5% of patients screened. There was no statistically significant contrast in sex and age related circulation of *H. pylori* disease. Be that as it may, a measurably critical relationship of *H. pylori* disease with Sydney reviewing of gastritis. Conclusion: *H. pylori* contamination connection factually not critical with segment normal for the patient and endoscopic discovering. However, it's critical corresponding to gastritis as indicated by Sydney evaluating where p value < 0.005 and < 0.001 in connection with presence of intense and interminable changes.

KEYWORDS: *H. pylori*; Endoscopic and gastric histopathological; dyspeptic; Thi-Qar.

INTRODUCTION

H. pylori is a Gram-negative bacterium whose presence in the stomach of tainted people is connected to the advancement of a few gastric maladies, for example, constant gastritis (de Martel et al., 2012). In spite of the fact that it is assessed that 50% of the total populace is tainted by *H. pylori*, just a little level of contaminated patients grow more extreme pathologies, for example, ulcers (10%-15%) and stomach adenocarcinomas (under 1%) (Suerbaum et al., 2002), the last speaking to 15.4% of the malignant growths delivered by

irresistible operators worldwide in 2012 (Plummer et al.,2016). These qualities propose that while pertinent to the advancement of extreme illnesses, including gastric malignancy, this microbe could likewise assume different parts in the human host . H pylori taints roughly half of the human populace worldwide and the contamination could arrive at over 70% in creating countries (Robinson et al.,2007).

The incessant inflammation actuated by H. pylori meddles with the typical physiology of the gastric corrosive discharge in various degrees, in this way prompting ceaseless gastritis, which, in many people, stays asymptomatic and doesn't advance. Notwithstanding, now and again, adjusted gastric emission, related with tissue injury, initiates the improvement of peptic ulcer, though in different cases, gastritis advances to decay, intestinal metaplasia, and in the end to gastric carcinoma or infrequently to gastric lymphoma, because of the tireless insusceptible incitement of the lymphoid tissue . The outcomes of contamination have been related with the improvement of various gastro-intestinal maladies, for example, gastric ulcers, gastric disease, mucosa-related lymphoid tissue(MALT) lymphoma and biliary plot cancer (Shmuely et al.,2014).

Additionally, H. pylori contamination has likewise been related with extra gastric sicknesses, such us ischemic heart diseases (Liu et al.,2015), type 2 diabetes mellitus (Li et al.,2017), anemia (Xu et al.,2017)adverse metabolic characteristics in fat subjects(Chen et al.,2017) and insulin resistances(Upala et al.,2017), to .In spite of the presence of such affiliations, these ailments happen just in a little level of tainted individuals, recommending that the microbes regularly continues in the human host without prompting any conspicuous indications of illness, and it has been proposed that H. pylori may likewise assume a beneficial function in human health (Sonnenberg et al.,2017).

A wide scope of research facility examinations are accessible for conclusion of H. pylori. The tests have a place with non-obtrusive gathering and intrusive gathering. Non-obtrusive tests incorporate, urea breath test, serological Immunoglobulin G (IgG) and ImmunoglobulinM (IgM) location, salivation and urinary neutralizer test, and stool antigen test (Malfertheiner et al.,2007) .The intrusive tests are endoscopy based tests, which incorporate histopathological assessment, quick urease test (RUT)and polymerase chain response. Though, obtrusive tests convey high affectability and specificity of > 90%, (Graham et al.,2006) the function of non-intrusive tests, for example, serology is restricted in territories of high commonness, on account of non-qualification among past and current infection. Dyspepsia is gotten from the

Greek words dys and peps and actually signifies "difficult digestion. dyspepsia is for the most part defined as ceaseless or often repeating epigastric agony/uneasiness beginning in gastro-duodenal area and might be went with other gastrointestinal indications, for example, sickness, burping, heaving, postprandial completion and early satiety. Chronic dyspepsia side effects can be constant, irregular or recurrent (Ramin et al.,2014). It is viewed as critical to general wellbeing, since it is surprisingly normal, can be crippling, and can presents significant social and monetary burden. People with utilitarian dyspepsia have a significantly diminished personal satisfaction when contrasted with the general population .Yearly occurrence of dyspepsia is around 9-10% and 15%patients have ceaseless (>3 months in a year), incessant (>3episodes every week) and frequently exceptionally serious symptoms .Dyspepsia is considered to have a wide range of non specific upper gastrointestinal manifestations with no natural alteration accounting for 60% of patient referrals to gastroenterology clinics (Suzuki et al.,2011)

Aim of study

To contemplate the pervasiveness H. pylori in patients with epigastric torment. In endoscopic unit and to know the impact of H.pylori on endoscopic and histopathological finding.

METHODOLOGY

Patient's determination: The investigation was done from September 2018 to Walk 2019 in AL Hussein showing emergency clinic an Optional clinic in AL Nasiriya . Where it is just open medical clinic in Thi-Qar with working endoscopic offices and got referrals from numerous medical clinics and outpatient center.

The study was Cross -Section study.

The investigation was led with 50 patients who alluded for OGD focus. The patients who agreed to partake in the examination were arbitrarily enrolled to meet the necessary example sizewhich primarily grumble from dyspepsia in over multi month.

Excluded from participating

1. patients on proton siphon inhibitors ,any anti-toxins or Bismuth in the previous 1 mouth
2. patients weren't given there verbal assent
3. Patients weren't finished there Examinations .

The patients were chosen on premise of boss protests of Dyspepsia and period of patients run from 15 to 80 . Verbal assent was taken from all patients subsequent to clarifying ton them the nature and reason for the investigation.

Conclusion of dyspepsia depended on clinical discoveries ,we characterized the dyspepsia if the patient had at least one of these indications with term of a quarter of a year or more; postprandial completion , early satiation, epigastric agony ,epigastric copying ,swelling in upper mid-region ,sickness, spewing (29) and After taken survey (table 1) from the patients.

Table 1: Show questioner

| |
|-------------------------|
| Questionnaire |
| Name |
| Sex |
| Age |
| Occupation |
| Resident |
| Blood group |
| Presence of pain |
| Site |
| Aggravated factor |
| Relieved factor |
| Duration of pain |
| Associated symptom |
| Drugs used |
| NSAIDs use and duration |
| Steroids and duration |
| Spicy food |
| Alcohol |
| Smoking |
| Family history |

2. H. pylori antibody test

Patient's blood tests were gathered in tubes and centrifuged for 5 mint. 3drops of serum include into H.pylori neutralizer test unit (ABON Biopharm)(Specificity 94.1% , Affectability 95.1%)and the outcomes (+ or -) taken following 10 minutes (relied upon data taken from tape inside the pack)

Endoscopy

Endoscopy was done by pro endoscopist utilizing (Olympus EVIS GIT - Q24OZ OR SP 240) forward survey OGD .

The cycle of the endoscopy system was disclosed to the patients, at that point 10% xylocaine pharyngeal shower was controlled to the patient's pharynx to incapacitate the gag reflex and

diazepam 5mg I.V . The patient was then positioned to his left side sidelong situation on the endoscopy love seat. The endoscopist sorted the patients dependent on the endoscopic finding into four gatherings :

1-ordinary, 2-irregular nonulcerative (any proof of mucosal sore without ulcer, for example disintegration, erythema, nodularity, decay, white plaque, and petechiae), 3-ulcerative, and 4-mix of 2 and 3

3. Histopathology

One endoscopic biopsy part was acquired from every patient from antrum.this endoscopic biopsy was sent to histopathology division in formalin container.4 μ thickness segment were cut from each square and mounted on a slide. The Slide was recolored with typical H and E, stain and Giemsa stain. Histopathological evaluation of gastric mucosa was completed by an authority pathologist. Biopsies were assessed for the power of mononuclear fiery cell invades, incendiary action (neutrophilic invasions), glandular decay, metaplasia, reparative atypia, and dysplasia [21]. Moreover, the cases were evaluated by the Sydney framework [20], which was reviewed by the force of mono-atomic fiery cell penetrates inside the lamina propria .

Sydney evaluating for gastritis :

1. absent irritation (Evaluation 0)
2. mild irritation (Evaluation 1 (
3. moderate irritation (Evaluation 2 (
4. severe irritation (Evaluation 3)

RESULTS

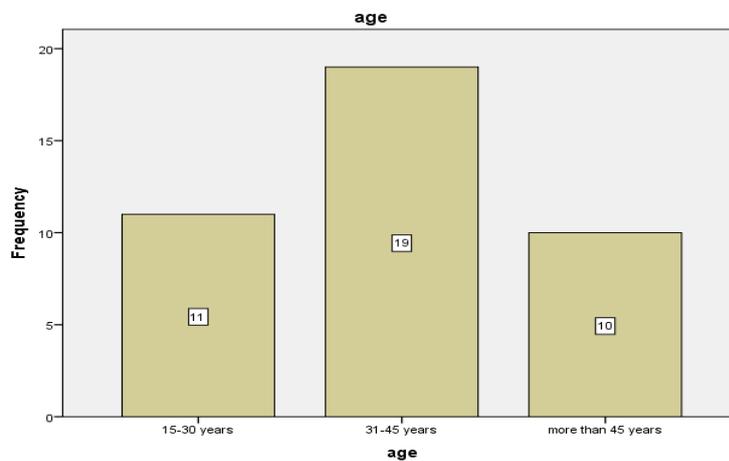
The clinical finding :The patients' age ran from 15years to 80 years with a normal of years.17(42.5%) patients were male and 23(57.5%) were female.The extent of male cases positive for H. pylori immune response test70.5% (12/17) was not factually critical when contrasted with the extent of females positive for H. pylori 47.8 % (11/27) with P estimation of 0.146 .Also, examination of H. pylori positive patients mind age [15_30]years 63.6% (7/11) and age [31_45]years 57.9% (11/19) and age [>45] years half (5/10) didn't yield any measurably huge outcome with P estimation of 0.81 .In regards to Inhabitant 22 (45%) patients from Al Nasiriya and 18 (45%) outside of Al-Nasiriya from encompassing zones and conditions which is statically not yield any noteworthy were p esteem <0.822.Table2 .

Likewise connection of span of dyspepsia (Table 3) and presence of danger factor to h.pylori positive not yield any measurable noteworthy (table 4) Out of 40patients, every one of them introduced to our clinic with upper stomach torment out of which 23 (57.5%)(23/40) patients had h.pylori contamination.

Table 2: Gender ,age , resident relation to h .pylori infection

| Data | No. of cases | Percentage% | H.pylori antibody positive | | P value | Percentage of h.pylori + from total number |
|-------------------------|--------------|-------------|----------------------------|------------|--------------|--|
| | | | N. of cases | Percentage | | |
| Gender | | | | | 0.146 | |
| Male | 17 | 42.5% | 12 | 70.5% | | 30% |
| Female | 23 | 57.5% | 11 | 47.8% | | 27.5% |
| Age | | | | | 0.818 | |
| 15-30 | 11 | 27.5% | 7 | 63.6% | | 17.5% |
| 31-45 | 19 | 47.5% | 11 | 57.8% | | 27.5% |
| >45 | 10 | 25% | 5 | 50% | | 12.5% |
| Employment | | | | | 0.38 | |
| employed | 7 | 17.5% | 5 | 71.4% | | 12.5% |
| student | 5 | 12.5% | 4 | 80% | | 10% |
| not employed | 8 | 20% | 3 | 37.5% | | 7.5% |
| house wife | 20 | 50% | 11 | 55% | | 27.5% |
| Resident | | | | | 0.822 | |
| From AL Nasiriya | 22 | 55% | 13 | 59% | | 32.5% |
| Out side | 18 | 45% | 10 | 55.5% | | 25% |

Figure 1: Show age distribution



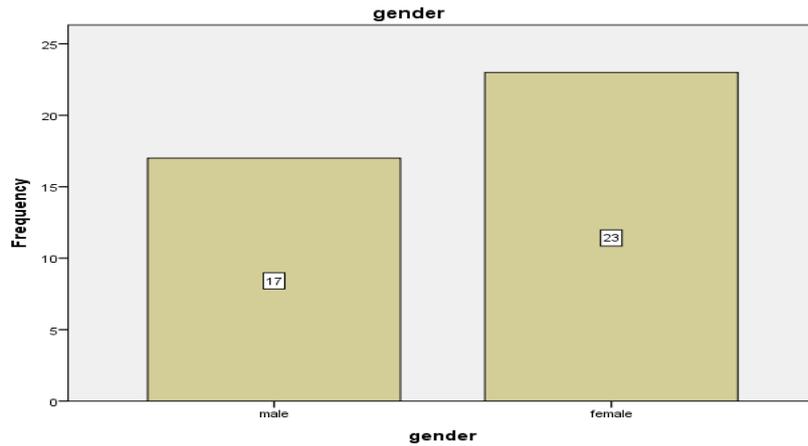


Figure 2: Frequency of gender

| Data | N. of cases | Percentage% | h. pylori antibody positive | | P value | Percentage of h. pylori + from total number |
|------------------------------|-------------|-------------|-----------------------------|------------|---------|---|
| | | | N. of cases | Percentage | | |
| <i>Duration of dyspepsia</i> | | | | | 0.635 | |
| 3M-6M | 24 | 60% | 13 | 54.1% | | 32.5% |
| 7M-12M | 6 | 15% | 3 | 50% | | 7.5% |
| >12M | 10 | 25% | 7 | 70% | | 17.5% |
| <i>Aggravated factors</i> | | | | | 0.378 | |
| eating | 12 | 22.5% | 9 | 75% | | 22.5% |
| stress | 5 | 12.5% | 2 | 40% | | 5% |
| hungry | 3 | 7.5% | 2 | 66.6% | | 5% |
| not specific | 19 | 47.5% | 10 | 52.6% | | 25% |

Table 4: relation of h. pylori to presence of risk factor

| Data | | N. of cases | Percentage% | h. pylori antibody positive N. of cases Percentage | | P value | Percentage of h. pylori + from total number |
|------------|----|-------------|-------------|--|-------|---------|---|
| NSAIDs | | 13 | 32.5% | 6 | 46.1% | 0.223 | 15% |
| Steroids | | 9 | 22.5% | 4 | 44.4% | 0.37 | 10% |
| Spicy food | 10 | 25% | 7 | 70% | 0.34 | 17.5% | |

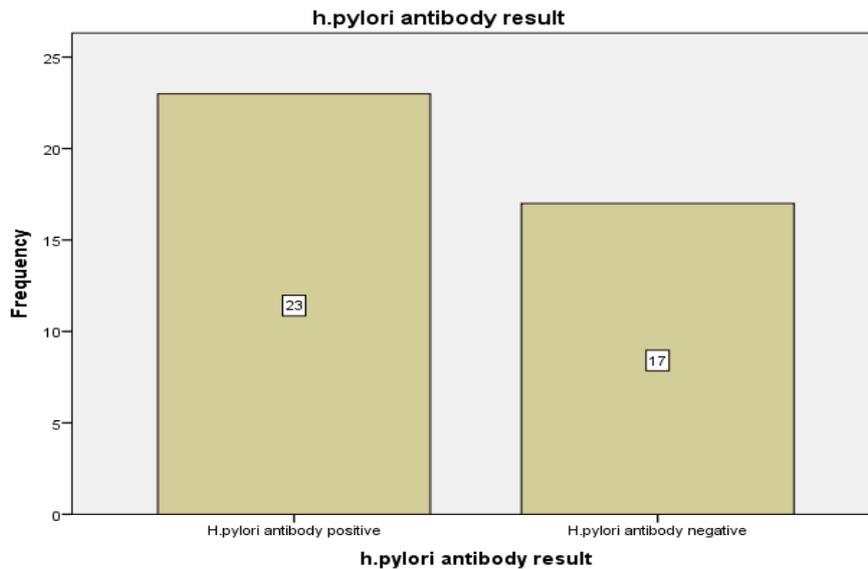


Figure 3: frequency of H.pylori positive according to serology

Thus, 9 (22.5%) patients gave sickness or Vomiting(55.5 %)(5/9) had h.pylori contamination ,1/40(2.5%) quiet with hematemesis which h.pylori negative, (9/40) (22.5%) with Melena ,55.5%(5/9) positive h. pylori , 18 (45.5%) had swelling ,(half) (9/18) of them had h.pylori positive, and 2 (5%)patients with weight/craving misfortune. Smoking not show factual connection to h. Pylori disease where 10(25%) patients are smoker , 8 (80%) (8\10) of them h. pylori positive.

Endoscopic finding

OGD revealed features of endoscopic gastritis in 37 (92.5%) (37/40) patients. 32 (68.5%) (32/37) of them hadpangastropathy, 3 (8.1%)(3/37) patients had ulcer , 1 (2.7%) (2/37) persistent had mass and 1(2.7%)(1/37) had both ulcer and pangastropathy.6 (15%) (6/40) patients had duodenitis and 5 (12.5) (5/40) had level duodenal mucosa (horribly celiac ailment) . Concerning endoscopic discovering ,6 (15%)(6/40) had GERD ,3 (7.5%) (3/40) patients had esophageal candidiasis and 4 (10%) (4/40) had hiatal hernia .table 5

All endoscopic finding with respect to gastritis and other finding not show any measurable noteworthy. Table 6

Table 5: prevalence of endoscopic finding

| Endoscopic finding | N. of cases |
|-------------------------------|-------------|
| 1.Endoscopic gastritis | 32 |
| A .normal | 3 |
| B. pangastropathy | 32 |
| C. Ulcerations | 4 |
| D. mass | 1 |
| 3.Duodenitis | 6 |
| Flat duodenal mucosa | 5 |
| 4.Esophagus | |
| GERD | 6 |
| Esophageal candidiasis | 3 |
| Hiatal hernia | 4 |

Table 6: Relation of endoscopic gastritis to h .pylori infection

| Endoscopic finding | N. of cases | Percentage | H. pylori antibody positive | | P. value | Percentage of h. pylori + from total number |
|--------------------|-------------|------------|-----------------------------|--------------|----------|---|
| | | | Percentage% | N. of cases | | |
| A. Normal | 3 | 7.5% | 2 | 8.7% | 0.549 | 5% |
| B. pan gastropathy | 32 | %80 | 18 | 78.3% | | 45% |
| C. Ulcerations | 3 | 7.5% | 2 | 8.7% | | 5% |
| D. both B and C | 1 | 2.5% | 1 | 4.3% | | 2.5% |
| E .mass | 1 | 2.5% | 0 | 0 | | 2.5% |
| Total | 40 | 100% | 23 | 100% | | 57% |

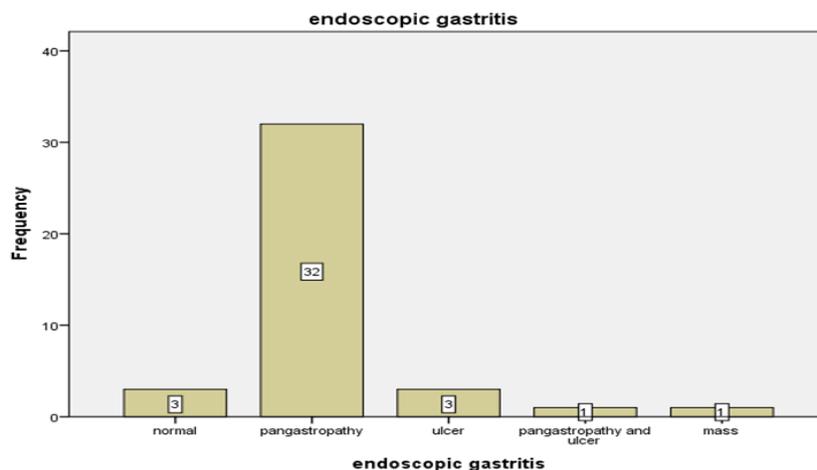


Figure 4: frequency of endoscopic gastritis

Histopathological finding

In gastric biopsy, where 40 examples gathered from Antrim show 9 (22.5%) (9/40) patients had grade 0 as per adjusted Sydney evaluating for gastritis no on from grade 0 had h.pylori immunizer positive. 19 (47.5%) (19/40) patients had grade 1 from them 15 (65.2%)(15/23) had h.pylori positive from complete h.pylori positive examples. 8 (20%) (8/40) patients had grade 2 and 4 (10%)(4/40) patients had grade 3 ,among those 4 (17.4%) and (17.4%) had h.pylori immunizer positive individually. Sydney evaluating gastritis show measurably noteworthy outcome where p esteem <0.005 table 7 Ultimately, histopathological changes such presence of intense or constant changes were factually huge while different changes, for example, presence of atrophic changes or lymphoid total are not critical.

Table 7: relation of histopathological gastritis to h. pylori infection according to Sydney grading

| sydney grading of gastritis for antral biopsy | N. of cases | Percentage% | H .pylori antibody positive | | P.value | Percentage of h. pylori + from total number |
|---|-------------|-------------|-----------------------------|-------------|---------|---|
| | | | N. of cases | Percentage% | | |
| grade 0 | 9 | 22.5% | 0 | 0 | 0.005 | 0 |
| grade 1 | 19 | 47.5% | 15 | 65.2% | | 37.5% |
| grade 2 | 8 | 20% | 4 | 17.4% | | 10% |
| grade 3 | 4 | 10% | 4 | 17.4% | | 10% |
| Total | 40 | 100% | 23 | 100% | | 57.5% |

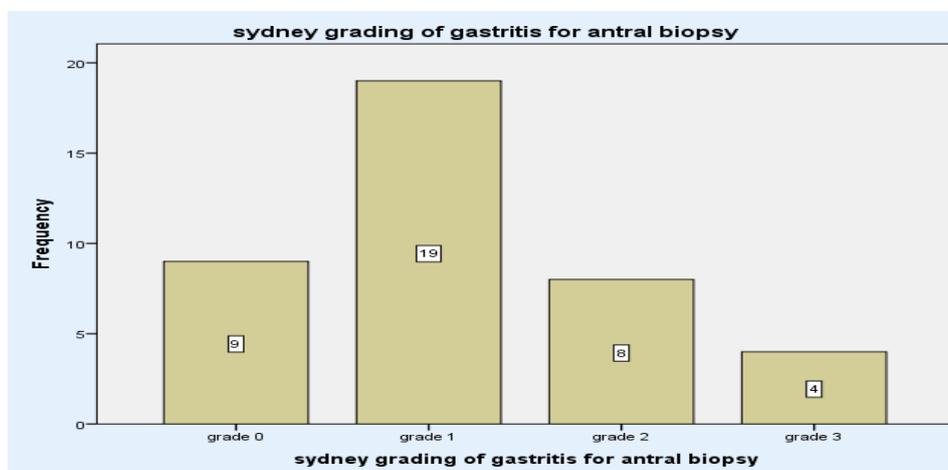


Figure 5: frequency of gastritis according to Sydney grading

Table 8: histopathological changes relation to h. pylori infection

| Data | N. of cases | Percentage % | H. pylori positive N. of cases | | P value | Percentage of h. pylori + from total number |
|-----------------------------------|-------------|--------------|--------------------------------|-------|---------|---|
| acute changes | 9 | 22.5% | 4 | 44.4% | 0.000 | 10% |
| Chronic changes | 22 | 55% | 19 | 86.4% | | 47.5% |
| no changes | 9 | 22.5% | 0 | 0 | | 0 |
| atrophic changes in antral biopsy | 15 | 37.5% | 10 | 66.7% | 0.361 | 25% |
| Lymphoid aggregation | 2 | 5% | 1 | 50% | 0.827 | 5% |
| Regenerative changes | 3 | 7.5% | 0 | 0 | 0.01 | 0 |

DISCUSSION

Gastritis, gastric ulceration, and gastric malignancies have numerous etiological components, among which H. pylori disease is the chief reason. H. pylori contamination is reliant upon numerous factors, for example, age, sex, financial status, dietary propensities, hereditary, and immunological components. In the current investigation, we didn't get a huge distinction in H. Pylori commonness as per sex. This is in concordance with the investigation aftereffects of Tarkhashvili et al (2009) and Shokrzadeh et al.,(2012) conversely an examination by Kaore et al., (2012) demonstrated higher commonness in male sexual orientation. Age appropriation of H. pylori contamination didn't show any pattern towards increment or decline in disease with the propelling age. In spite of the fact that greatest percent of H. pylori inspiration 63.6%(7/11) was found in the age gathering of 15_30 years. There was no factually critical distinction in commonness of H. pylori in the age. This is like the perceptions laid by Shokrzadeh et al.,(2012) and Kaore, et al.,(2012) revealed expanded H. pylori disease in age gatherings of 20-40 years than the more established age group. In the current investigation. The connection of smoking and H. pylori disease not show critical, this like examination conveyed by This investigation of patients in an overall practice found no noteworthy connection among smoking and dynamic H pylori contamination (Jemilohun et al.,2010). But against study. where show there is a solid relationship between cigarette smoking ($P < 0.0001$) and expanded commonness of H. pylori disease among smoker .

As to of NSAIDs and H.pylori contamination didn't get factual critical, This is like perception laid. NSAID use may now be liable for most draining intricacies of ulcer infection, paying little mind to H. pylori status .

The commonest recognizable injury at endoscopy was gastritis(80%). This is like perception laid in which the connection was not measurably noteworthy. As opposed to our examination the perception appeared by (Zapata-Colindres et al.,2010) this is on the grounds that we haphazardly select the patients and because of various medications utilized by the patients which influence gastric mucosa terribly . The relationship of endoscopic irregularity with H. pylori contamination was measurably profoundly huge with a $P < 0.01$, demonstrating endoscopic changes to be a touchy pointer of H. pylori disease. Histopathological gastritis present in 77.5% which factually critical where p esteem <0.005 This is like perception laid by Zapata-Colindres et al., (2006) .Recording H. pylori pervasiveness in gastric ulceration patients to be 80% and 84% individually. Detailed the global relationship of H. pylori with gastric ulceration (Ahmad et al.,2011)

CONCLUSION

1. H.pylori disease not identified with the sex , age and resident(rural or metropolitan) as making for inspected patients.
2. No relationship in our investigation shows between h.pylori disease and endoscopic finding included gastritis ,duodenitis, GERD .
3. Histopathological finding enormously identified with H.pylori contamination while intense or ceaseless
4. Evaluating of gastritis as indicated by sydney reviewing had relationship to H.pylori contamination.

RECOMMENDATIONS

1. Not utilize anti-microbials except if we have an archive for its essence
2. H.pylori is significant and you should check all patients with dyspepsia
3. All patients with H.pylori ,its not imperative to send to endoscopy
4. If we send for endoscopy, Its critical to do biopsy for histopathological reviewing.
5. It's critical to destroy h.pylori in patients with histopathological changes
6. Inform the clinical organization.

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