

ORIGINAL RESEARCH ARTICLE

MIRROR OF UPPER GASTROINTESTINAL ENDOSCOPIC FINDINGS IN LUMBINI PROVINCIAL HOSPITAL

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**ABSTRACT**

**Background:** Upper Gastro Intestinal (UGI) endoscopy is a common and important procedure for UGI problems. In Nepal, especially to this region, there have not been many scientific studies about the pattern of diseases seen on UGI endoscopy. This study aimed to enlist patterns of upper GI endoscopic findings done in Lumbini Provincial Hospital.

**Methods:** This was a retrospective study of 200 consecutive patients who underwent UGI endoscopy from August 2017 to February 2018. Data were retrieved retrospectively from prospectively maintained data in computer-based systems and analyzed with SPSS-20.

**Results:** A total of 200 patients underwent UGI Endoscopy during the study period. Among them, females were 110 (55.0%) and males were 90(45.0%). The mean age of the study population was 46.3% (SD, 17.75). The pain abdomen was the most common indication for UGI endoscopy with 166 cases (83.0%) followed by gastrointestinal bleeding with 22 cases (11.0%). Benign lesions were seen in most of the cases which include non-ulcerative lesions 117(58.5%) and ulcerative benign lesions 72(36%). Malignancies found in 7(3.5%) cases and normal findings in 4 cases.

**Conclusions:** This study outlines the most common indications for upper GI endoscopy in our set up and disease patterns in those patients. This study will be helpful for an epidemiological study.

**INTRODUCTION**

The first fiberoptic endoscope was based on inventions by Larry Curtiss and the application of knowledge by Basil Hirschowitz in the year 1957AD. Endoscopy has been modernized and précised since then for diagnosis as well as therapeutic purposes. It has revolutionized the diagnosis and management of upper gastrointestinal (UGI) pathologies.<sup>1,2</sup> Nowadays, narrow beam imaging (NBI), confocal endoscopy, chromoendoscopy are common tools used for diagnostic purposes in upper gastrointestinal (UGI) Pathology. Similarly, endoscopic procedures for Barrette's Esophagus and Achalasia Cardia are well developed and accepted. Endoscopic ultrasonography (EUS), endoscopic pancreatic drainage and baby scope in the biliary tract are modern methods of upper GI Endoscopy.<sup>3-5</sup> Moreover, being modern they are very much safe and accurate.<sup>6</sup>

Lumbini Provincial Hospital is a tertiary care Hospital for province number 5 of Federal Nepal. This region consists of Hilly areas as well as Terai. Major parts of this region have difficulties in access to tertiary care. Most of the OPD patients come with gastrointestinal problems and UGI endoscopy is one of the cornerstone investigations to them. Although there were articles

on upper UGI symptoms from hospitals located in Kathmandu, there were not many articles from this part of Nepal.<sup>7,8</sup>

The study aimed to evaluate the spectrum of disease conditions of the patients with UGI problems and advised for UGI endoscopy

**METHODS**

This retrospective study was conducted at the Department of medicine, Lumbini Provincial Hospital Butwal. After approval from the Institutional Review Board (IRB), data were retrieved retrospectively from medical records from August 3rd, 2017 to February 6th, 2018. All endoscopies were done by two consultant doctors and indications of endoscopy were determined by outpatient department (OPD) physicians, emergency consulting doctors, and consultants taking rounds in wards. Consecutive 200 cases were reviewed in this period. Data were analyzed with descriptive statistics using SPSS 20.

**RESULTS**

In total data of 200 patients were analyzed in which 90 (45%) were males and 110 (55%) were females (Table 1).

**Table 1: Gender distribution of patients**

Gender	No. of cases (%)
Male	90 (45)
Female	110 (55)
total	200(100)

The mean age of the study population was 46.3±17.52 (Table 2).

**Table 2: Age distribution of study population**

Gender	Mean age±S.D.*
Male	51.29±19.444
Female	42.23±15.144
Study population	46.3±17.752

\*S.D. - Standard Deviation

Most common indication was pain abdomen (83%) and second being UGI bleeding (11%) (Table 3).

**Table 3: Indications for UGI endoscopy**

Indications	No. of cases (%)
Pain abdomen	166 (83)
UGI Bleeding	22 (11)
Dysphagia	2 (1)
Recurrent vomiting	1 (0.5)
H/O Esophageal Varices	2 (1)
H/O duodenal ulcer	2 (1)
H/O CLD without Varices	1 (0.5)
Anemia	2 (1)
H/O erosive gastritis	2 (1)
Total	200 (100)

Endoscopic findings first divided to normal and positive findings with normal 4 cases (2%). Then, positive endoscopic findings were divided further into benign 189 (94.5%) or malignant 7(3.5%). Among malignant cases, 5(2.5%) were carcinoma stomach and 2(1%) were esophageal carcinoma. Benign findings were also divided to ulcerative 72(36%) and nonulcerative 117(58.5%) lesions which were further divided based on organ of involvement. Among the organs involved, stomach was the most common organ of involvement in both ulcerative (Table 4) and non-ulcerative lesion (Table 5).

**Table 4: Distribution of ulcerative lesion based on organs**

Organ	No of cases (%)
Esophagus	3 (1.5)
Stomach	49 (24.5)
Duodenum	8 (4)
Combined (duodenum + stomach)	12 (6)
Total	72 (36)

Nonulcerative lesions were further divided based on organ of involvement.

**Table 5: Distribution of nonulcerative lesion based on organs**

Organ	No of cases (%)
Esophagus	18 (9)
Stomach	52 (26)
Duodenum	2 (1)
Combined (more than one organ involvement with different benign findings)	45 (22.5)
Total	117 (58.5)

Table 6 showed the nonulcerative esophageal lesion and reflux esophagitis is most common esophageal nonulcerative lesion (4%).

**Table 6: Non-ulcerative esophageal lesion**

Lesions	No of cases (%)
Erosions	8 (4)
Hiatal hernia	4 (2)
Varices	3 (1.5)
Candidiasis	2 (1)
External compression	1 (0.5)
Total	18 (9)

Table 7 showed the distribution of nonulcerative stomach lesion and it showed erosive gastritis as most common finding 36 (18%).

**Table 7: Nonulcerative stomach lesions**

Findings	No of cases (%)
Erosions	36 (18)
Polyps	6 (3)
Bile reflux gastritis	4 (2)
Atrophic gastritis	2 (1)
Congestive gastropathy	2 (1)
Ectopic pancreatic tissue	1 (0.5)
Vascular anomalies	1 (0.5)
Total	52 (26)

Antral gastritis with duodenitis is the most common combination diagnosis involving two organs (Table 8).

**Table 8: Nonulcerative lesions involving different organs**

Diagnosis	No. of cases (%)
Antral gastritis with duodenitis	24 (12)
Esophagogastrroduodenitis	5 (2.5)
Reflux esophagitis with bile reflux gastritis	6 (3)
Lax Lower esophageal sphincter with antral erosions	3 (1.5)
Other	7 (3.5)
Total	45 (22.5)

## DISCUSSION

The study was aimed to observe the spectrum of disease conditions of the patients with UGI problems and advised for UGI endoscopy. For this, the medical records of 200 patients were analyzed.

Among them 90 (45%) were males and 110 (55%) were females. This was in accordance with the results reported by Nkrumah<sup>9</sup> and Khuram.<sup>10</sup> In contrast to our findings, few studies have shown a predominance of males.<sup>4,8,11-13</sup> However, Mehmood et al conducted at Peshawar showed almost equal numbers of males and females.<sup>14</sup>

The mean age of the patients was 46.3±17.752 yrs. This is similar to other studies.<sup>4,15-17</sup> It was 46.5±17.9 years in Mudawi et al.<sup>18</sup> and 36 years in Taye et al.<sup>19</sup> This shows that the upper GI Problem is more prevalent in middle-aged populations. This result was comparable with the study done by Chhetri et al in Lumbini Medical College and Teaching Hospital (45.7 years, SD= 17.9).<sup>8</sup>

Pain abdomen with dyspepsia was the main Indication for UGI Endoscopy (83.0%) in our study which was higher than reported by Taye et al (60 %). Taye et al. reported only 60 % of cases had a history of dyspepsia.<sup>19</sup> UGI Bleeding was the second most common indication for UGI endoscopy (22 cases, 11%) in our study, while it was 18% in the study by Taye et al.<sup>19</sup>

In our study, normal UGI endoscopic finding was seen in 4 cases (2%) which is very low than reported by Chhetri et al (38%).<sup>8</sup> This may be due to better selection of cases in our study.

Non-ulcerative lesions were most common in our study consisting of 117 cases (58.5%) vs ulcerative lesion 72 (36%) comparable to other study done in Nepal.<sup>7</sup> Inflammatory lesions in stomach solely with the diagnosis of erosions, bile reflux gastritis, and atrophic gastritis or with the involvement of other organs are most common findings 80 cases (40% of total). This

result was comparable to reported by Shrestha et al. (41.66%)<sup>7</sup> and Chhetri et al. (48.4%).<sup>8</sup> This was also in concordance with similar studies reported in a different part of the world. Nkrumah et al<sup>9</sup> in Saudi Arabia reported gastritis in 31% while Khan et al<sup>20</sup> at Chhattisgarh, India which reported gastritis in 25.1%.

There were altogether 7 cases (3.5%) of malignancies in our study. It was higher in the study reported by Khan et al (8.7%)<sup>20</sup> and Shah et al (10%).<sup>21</sup> Overall malignancy was 2.2% in Kandem et al.<sup>22</sup> Among malignancies gastric carcinoma was seen in 5 cases (2.5%) which was similar to the one reported by Chhetri et al. (2.6%).<sup>8</sup> Other studies also reported comparable results. Taye et al showed 1.3%<sup>19</sup>, Khalid et al showed 1.17%<sup>14</sup> and Inayatullah et al showed 2%.<sup>24</sup> But it was higher in Khan et al<sup>20</sup> and Agbakwuru et al.<sup>23</sup> Similarly it was higher in other studies from different parts of Africa and world.<sup>22</sup> It was in higher in Inayatullah et al<sup>24</sup> which was 6.7% and Ndububa et al<sup>25</sup> which was 6.2%.

Our study found esophageal carcinoma in 2 cases (1%) comparable to Emmanuele et al (1.7%)<sup>17</sup>, Taye et al (2.8%)<sup>19</sup> and Inayatullah et al (2%).<sup>24</sup> It was reported higher (3.7%) in Khan et al.

In our study, we didn't study H. pylori status, the personal habit of patients, and the history of drug intake. Further Prospective studies are needed addressing these issues.

## CONCLUSION

This study outlines the most common indications for upper GI endoscopy in our set up and disease patterns in those patients. This study will be helpful for an epidemiological study.

**CONFLICT OF INTEREST:** None

**FINANCIAL DISCLOSURE:** None

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