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Upper gastrointestinal endoscopy in rural setting: an experience of a trained general practitioner in himalayan region of Nepal

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Abstract

Introduction: Gastrointestinal disorders are very common in general population. Upper Gastrointestinal (UGI) Endoscopy plays important role in evaluating oropharynx, esophagus, stomach and proximal duodenal problems. UGI endoscopy is utilized for various diagnostic and therapeutic purposes. Because patients in rural Nepal are primarily served by General Practitioners (GPs) and have limited access to specialists and endoscopes, a study was initiated to assess the spectrum of diseases, outcomes, and complications of UGI endoscopy performed by a trained GP in Tsho-Rolpa General Hospital, Dolakha, Nepal.

Method: This study was retrospective observational study conducted at Tsho-Rolpa General Hospital, Dolakha, Nepal. The convenience sampling method was used. Records of UGI endoscopy book were reviewed and analyzed from Jan 2023 to Dec 2023. Data entry and descriptive analysis were done in SPSS version 25 and descriptive statistics were performed.

Result: A total of 436 Upper Gastrointestinal Endoscopy was performed by a trained General Practitioner over a period of 1 year. Among them, 307 (70%) were females and 129 (30%) were males. The mean age of the population studied was 41.6 ± 14.56 years. Patients of age group 35 to 44 years were one third. 61% (267) cases had commonest problem of gastritis and interestingly 14% also had normal findings. Epigastric pain was the major complaint among 226 (52%) cases. And, 159 cases (36.5%) presented from Bhimeshor municipality of Dolakha where the hospital lies and 19 (4.3%) cases presented from other districts. No major complications were noted during and after the procedure.

Conclusion: A trained general practitioner can perform upper gastrointestinal endoscopy in rural setting. Gastritis is the major finding with epigastric pain as a major complaint. Significant proportion of people had normal findings. Further research is needed to assess quality of endoscopy performed by GP in rural setting. General Practitioners need guidance from GI experts to consult cases and seek advice.

Keywords: Endoscopy, Gastritis, General Practitioners (GP), Rural, Nepal

INTRODUCTION

About 40% of people have dyspepsia, as pain or discomfort in epigastrium, at some point of their life¹ and peptic ulcer disease in a general population has a life time prevalence of 5-10% globally.²

Upper Gastrointestinal (UGI) Endoscopy plays important role in diagnosis and treatment of gastrointestinal disorders.³ UGI endoscopy is utilized for various diagnostic and therapeutic purposes. The direct visualization of entire pharynx, esophagus, stomach and duodenum and some diagnostic workup as well as therapeutic procedures makes endoscopy as a superior tool to other diagnostic measures.⁴ Indications for UGI endoscopy includes dyspepsia, UGI bleeding, foreign body in esophagus, portal hypertension with suspected variceal bleeding, gastritis, peptic ulcer diseases.⁵ Common findings includes gastritis, gastric ulcer, duodenal ulcer, gastric malignancy and esophagitis. Normal findings were also seen in some studies.⁶⁻⁷

Patients in rural Nepal are primarily served by General Practitioners (GPs) and have limited access to specialists and endoscopes. The objective of this study was to assess the spectrum of diseases, outcomes and complications of UGI endoscopy performed by a trained General Practitioner (GP) in remote Nepal.

METHOD

A descriptive retrospective observational study was conducted at Tsho-Rolpa General Hospital, Dolakha, Nepal among 436 participants attending endoscopy unit from January 2023 to December 2023. All patients undergoing endoscopy at the hospital were included. Census sampling technique was used.

Initially, a general practitioner was trained by an MCH gastro-surgeon for 3 months started with observation, endoscope withdrawal and insertion of endoscope and with 1-year experience of endoscope handling, a general practitioner started doing UGI endoscopy.

Premedication with Lignocaine spray was given around pharynx. SonoScape Endoscope was used to visualize UGI tract. The endoscope was disinfected using 2% glutaraldehyde before and after the procedure. Mucosal biopsy was taken for suspected lesions.

Clinico-epidemiological data was collected from the record book of UGI endoscopy which was later reviewed and analyzed. Confidentiality and privacy of the data were maintained. Ethical clearance was taken with hospital ethical review committee. Data entry and descriptive analysis were done in SPSS version 25 and descriptive statistics were performed.

RESULT

A total of 436 Upper Gastrointestinal Endoscopy was performed in 1 year by a trained General Practitioner. Among them, 307 (70%) were females and 129 (30%) were males. The mean age of the population studied was 41.6 years (SD 14.56). Patients of the age group 35 to 44 years were one third. Age wise distribution is given in table 1. Fig 1 demonstrates the problems identified with UGI endoscopy.

Further, 267 (61%) cases had commonest problem of gastritis and interestingly 60 (14%) also had normal findings. Epigastric pain was the major indication of UGI endoscopy among 226 (52%) case as shown in the table 2. And, 159 cases (36.5%) presented from Bhimeshor municipality of Dolakha where the hospital is located and 19 (4.3%) cases presented from other districts as shown in Fig 2. No major complications were noted during and after the procedure.

Table 1. Age wise distribution of UGI endoscopy

Age (Years)	Number (%)
16-24	25 (6%)
25-34	68 (15.6%)
35-44	151 (34.6%)
45-54	82 (18.8%)
55-64	65 (15%)
>65	45 (10%)

Table 2. Indications of UGI endoscopy

Indications	Number (%)
Epigastric pain	226 (52%)
Vomiting	79 (18%)
GI bleeding	9 (2%)
Dysphagia	45 (10%)
Foreign Body Esophagus	9 (2%)
Weight loss	19 (4%)
Heart burn	38 (9%)
Liver cirrhosis	11 (1%)
Total	436

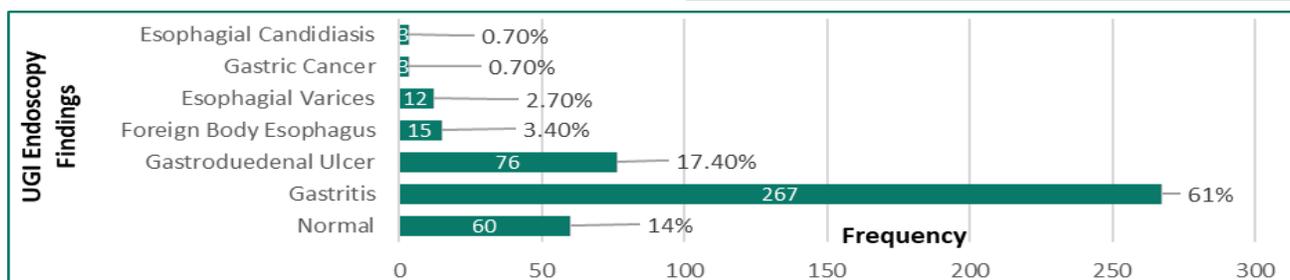


Figure 1. UGI endoscopy findings

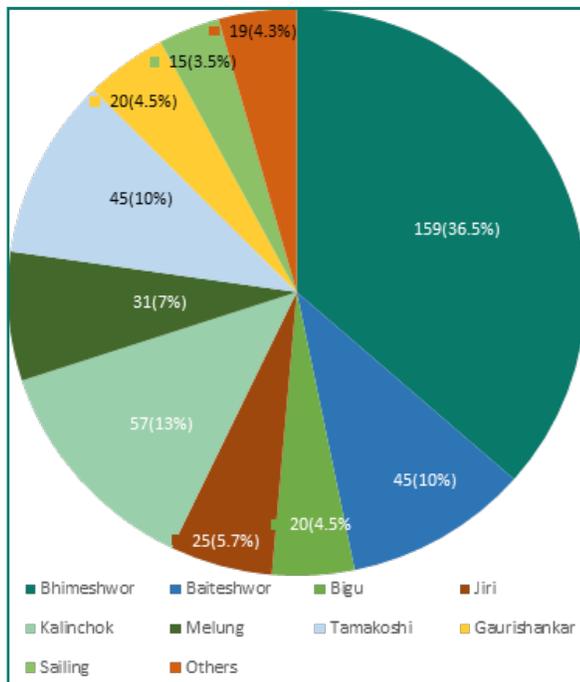


Figure 2. UGI Endoscopy Municipality Wise Distribution

DISCUSSION

Overall, our study showed 70% of UGI endoscopy were predominantly done in females, this finding is similar to studies done in other province of Nepal.^{6,8} Contrary to this, study done at Nepal Medical College and Lumbini Medical College had slightly more males than females.⁹

Age wise distribution was dominant among 35–44 years as contrary to 45–54 years in another study done in Nepal.¹⁰ But, was similar to the study done in Patan Hospital with predominance below age 40 years in 2014 AD.⁶ The similarities and disparities are likely due to differences in health seeking behaviors in different regions of Nepal.

Epigastric pain was the major indications found in our study which is similar to the studies done in Uganda, Ghana, Nigeria and India.^{11–14} And, indication wise, Upper GI bleeding, were found in few cases only and gastric malignancy was noted among 0.3% only.

In our study, gastritis was the major UGI endoscopic finding among more than half of the cases, this was similar to studies done in other parts of Nepal^{6,8,9} and outside Nepal.^{11,12,14,15}

In 14% of the cases, our study had normal findings which was similar to the study done in Nepal and Uganda.^{10,12} However, in one study showed 22% of the cases had normal UGI endoscopic findings.¹⁴ And, interestingly, only 2% cases had normal findings in study done in a government hospital.⁸ The difference in normal findings is likely due to different set up in government and private hospitals, availability of the service and demands from the general population. Around one third of the cases were from Bhimeshwor municipality

of Dolakha district and 4.3% cases presented from other districts of Nepal.

The 100-bed health care facility of Tsho-Rolpa General Hospital in the Himalayan region of remote Nepal serves around 25,000 patients every year. This is an only hospital with UGI endoscopy services in the district.

Generally internal medicine experts and GI surgery expert performs UGI endoscopy in the world, but this is a unique study in which a general practitioner in lower resource setting performs the procedure without significant complications. We found a study in which a trained family physician have performed UGI endoscopy in British Colombia¹⁶ and no such studies found in Nepal.

As this study was retrospective in nature, H. Pylori status, personal habits, lab findings, details of examination findings are not assessed. A further prospective study with detail clinical evaluation to assess the quality of UGI endoscopy performed by General Practitioner is required.

CONCLUSION

Endoscopy is important modality of diagnosis to identify specific pathology of patients with dyspepsia. Gastritis was the major findings with epigastric pain as a major complaint. A trained general practitioner can perform upper gastrointestinal endoscopy in rural setting. Significant proportion of people had normal findings. Further research is needed to assess quality control of endoscopy performed by GP in rural setting. General practitioners need guidance from GI experts to consult cases and seek advice.

DECLARATIONS

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Conflict of Interest

None

Funding

None

Ethical Clearance

Ethical clearance was taken with the hospital ethical review committee.

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