

Outcome of patients underwent Upper Gastro Intestinal Endoscopy (UGIE) at surgical unit B, General Hospital Anuradhapura

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Abstract

Introduction: We analyzed 182 consecutive patients underwent UGIE from 26.03.2011-31.08.2011. Age, sex, height, indication, length of oesophagus, findings and outcome were noted.

Objective: We assessed the cost effectiveness, detection rate, diagnostic and therapeutic significance, in making a decision to expand the service.

Patients and methodology: All consecutive patients undergone UGIE were included. All the cases were done with overnight fasting, local lignocain spray without insertion of an intra venous canula, with no sedation or anti spasmodic.¹

Results: 101(56%) were males and 81 (44%) were females. Age range 16-85 years with a mean of 58. Indications were malaena or haematemesis 38, epigastric pain or reflux 61, anaemia 19, dysphagia 43, significant past history 17, vomiting 2, loss of weight or appetite 2. Heights of the patients were ranging from 135 cm -176 cm. The distance to gastro oesophageal junction from incisor was ranging from 28 cm -47 cm. Twenty-four (24) patients underwent biopsy for histology.

Conclusion: There is a significant positive correlation of the site of gastro oesophageal junction to the height of the patient. Awareness of

this variation is valuable in stent selection, interpretation of Ba swallow, especially in cases were oesophageal obstruction prevent endoscopic examination is impossible.

Introduction : UGIE (Upper Gastro Intestinal Endoscopy) is considered to be the gold standard for investigation of UGI pathology.² It gives the opportunity for biopsy of lesions for histology in malignant disease, and histology, culture and urease test in *Helicobacter pylori* infection.² It is the best type of investigation for upper gastrointestinal bleeding because of its better diagnostic value especially for superficial lesions such as oesophagitis, gastritis, duodenitis. It is free of exposure to ionizing radiation. The main limitations of the procedure are its invasiveness, discomfort, necessity of sedation at times and a slight risk of morbidity and even mortality.³ These problems can be minimized by the introduction of better equipment and good endoscopy practice.⁴ The findings of the procedure is subjective since the endoscopist may be the only person who sees the lesion. The introduction of closed circuit television (CCTV) with video and photographic recording, have helped to overcome the drawback of documentation of findings.

Materials and methodology

Records of all UGIE performed between 26 March 2011 and 31 August 2011 in the surgical unit B were

analyzed. The endoscopic facilities were available as in-patients. Endoscopies were performed with the Olympus GIF Q145. Only forms of analgesia was throat spray with 2% lignocaine(1) . Biopsies were taken from lesions in the stomach and oesophagus for histology in suspicious cases. A total of 24 biopsies were taken in this group for histological analysis. When histology is inconclusive repeat endoscope were performed. Indications were malaena or haematemesis, epigastric pain or reflux, anaemia, dysphagia, unexplained vomiting, loss of weight or appetite and other elective procedures. Examination of vocal cords, oesophagus, gastro oesophageal and squamo -columnar junction,

stomach, first and second parts of duodenum were performed. In our unit we do not have facilities to do urease test. Age, sex, height, indication, distance from incisor teeth to gastro oesophageal junction, other findings and outcome were noted.

Results

There were 101(56%) males and 81 (44%) females .Age range 16-85 years with a mean of 58. Figure 1 indicates total number of patients underwent UGIE and number of cases with normal and abnormal findings.

Age range	normal	abnormal	total
10-19	02(37%)	01(33%)	03
20-29	06(75%)	02(25%)	08
30-39	11(73%)	04(27%)	15
40-49	15(42%)	21(58%)	36
50-59	13(22%)	42(78%)	55
60-69	12(29%)	29(71%)	41
70-79	01(06%)	15(94%)	16
80-89	03(38%)	05(62%)	08

Figure 1

Indications for UGIE were malaena or haematemesis 38, epigastric pain or reflux 61, anaemia 19, dysphagia 43, significant past history 17, vomiting 2, loss of weight or appetite 2. Twenty-four (24) biopsies were taken for histology.

The findings of UGIE in relation to the symptoms are shown in the figure 2.

Figure 2

A=gastritis, B=normal, C=carcinoma stomach, D=carcinoma oesophagus, D=gastric ulcer,

E=duodenal ulcer, G= duodenitis, H=oesophageal varices, I=hiatus hernia, J=upper stomach bleeding or congestion

1. Haematemesis/malaena
2. Epigastric pain/reflux
3. Anaemia
4. Dysphagia
5. Loss of weight/appetite
6. Vomiting
7. significant past history

	A	B	C	D	E	F	G	H	I	J
1	12	07	00	00	10	01	01	06	05	02
2	26	31	00	00	02	00	03	00	03	00
3	06	07	00	00	00	01	00	01	01	01
4	06	15	02	11	01	01	01	00	02	00
5	04	06	01	01	02	00	00	01	00	00
6	00	01	01	00	00	00	00	00	00	00
7	03	07	02	01	01	00	00	00	00	00
total	57	74	06	13	16	03	05	08	11	03

Figure 2

Some of the patients showed more than one pathology. Seventy-four (74) out of 182 (40%) were normal. Commonest finding was antral gastritis in 57 (31%) patients. There were 6 (3%) carcinoma stomach, and 13(7%) oesophageal carcinoma. There were 16 (9%)gastric ulcers, 3 (1.5%) duodenal ulcers, 5(2.5%) doudenitis, 8 (4%)oesophageal varices, 3 (1.5%) upper gastric congestion/bleeding and 11(5.6%) hiatus hernias,

one duodenal polyp, one gastric small polyp, one gastric small haemangioma, 2 small oesophageal polyps, 2 laryngeal growths, one case with worms in duodenum.

Heights of the patients were ranging from 135 cm - 176 cm. The distance to gastro oesophageal junction from incisor was ranging from 28 cm -47 cm. Scatter plot is illustrated in figure 3.

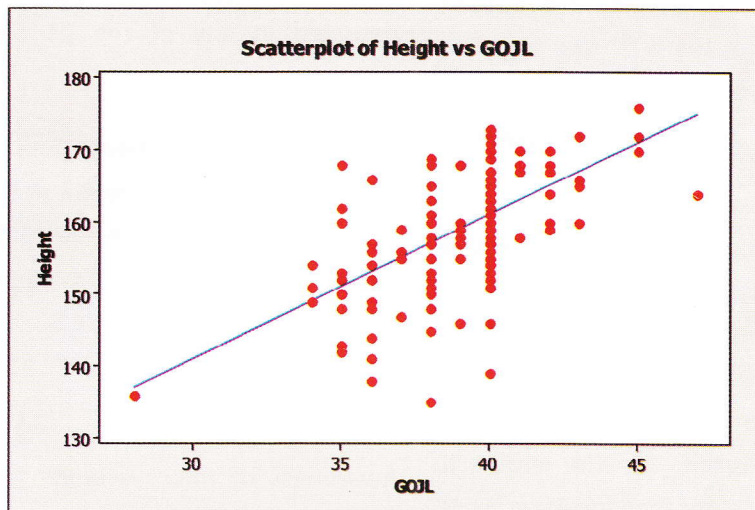


Figure 3

Mean of Height of patients = 158.791cm

Standard deviation of Height = 8.37026

Mean of distance to gastro-oesophageal junction from incisor teeth = 38.8235cm

Standard deviation of above = 2.58314

Discussion.

Studies have shown that upper gastrointestinal endoscopy is a satisfactory investigation of upper gastrointestinal symptoms. It gives sufficient diagnostic yield in the investigation of upper gastrointestinal bleeding, inflammatory conditions of the upper gastro-intestinal track like gastritis and

duodenitis as well as carcinoma and helpful in therapeutic procedures.^{3,5} Our study has shown that epigastric pain, dysphagia, anaemia and haematemesis or melaena were the commonest reasons for endoscopy (88%). Antral gastritis and peptic ulcers were the commonest cause of upper gastrointestinal bleeding in this group.

Normal endoscopy was reported in 40% of the total number of patients endoscoped and in 18% of patients endoscoped for upper gastrointestinal bleeding.⁶

In our study there was a steady fall in the normal endoscopy rate with advancing age, being as high as 73% in patients between the ages of 10 and 39 years, and as low as 30% in patients in patients between ages 40 to 69 years and 17% in ages between 70-89.

The normal endoscopy rate of 40% in our study compares favourably with the 40% rate found in another study.⁷ In this same study a lower abnormal endoscopy rate was found in younger patients compared with older ones.

Our study also showed that malignant diseases of the oesophagus was more common in patients over fifty years of age, accounting for 11 out of 13 (77%) of all oesophageal carcinoma. In patients below the age of thirty five, however, no oesophageal carcinoma cases diagnosed. All the stomach carcinoma patients were older than forty five years in this study. The low diagnostic finding in young people indicates that a thorough clinical need to be done before endoscopy is requested.

UGIE is an expensive investigation because of high cost of the equipment and their maintenance. In the third world countries therefore, care of the endoscopy equipment is of extremely importance. Our study has shown that there are many normal

endoscopies particularly in young people under the age of 30 years. This age group also has a very low incidence of malignancies in the stomach or esophagus. So it is necessary to screen young patients carefully before referral for endoscopy to reduce the cost and help to increase the life span of the endoscopes. Those with mild symptoms could be treated empirically for up to six weeks and if symptoms do not resolve or recur during this period then referrals can be made for endoscopy. Patients, who present with upper gastrointestinal bleeding, anaemia, severe dyspeptic symptoms, and older patients, have their endoscopic examination early.^{6,8}

Upper gastrointestinal endoscopy when done without sedation with pharyngeal anaesthesia alone is a safe and well tolerated procedure.^{1,3,9,10} We did not have the facilities for urease test to diagnose *H. pylori* infection. However no *H. pylori* were detected in any of the 24 biopsies done for histology.

Mean of Height patients was 158.791 with a Standard deviation of Height of 8.37026. Mean of distance to gastro oesophageal junction from incisor teeth was 38.8235 cm with a Standard deviation of 2.58314. There is a significant positive correlation of the site of gastro oesophageal junction to the height of the patient.

Awareness of this variation is valuable to the endoscopist in stent selection and insertion, interpretation of Ba swallow films, specially in cases where oesophageal obstruction prevent anymore endoscopic examination is impossible.⁵

Conclusion UGIE can be performed safely without sedation. There is a significant positive correlation of the site of gastro oesophageal junction to the height of the patient. Awareness of this variation is valuable in stent selection, interpretation of Ba

swallow, especially in cases where oesophageal obstruction prevents endoscopic examination is impossible. We found that the normal endoscopy rate is unduly high and needs to be reduced by

careful screening of young patients in order to reduce the cost and to help prolong the lives of the endoscopes.

References

1 Neenah S Abraham , Carlo A Fallone, Serge Mayrand , Jack Huang , Paul Wiczorek, Alan N Barkun . Sedation *versus* No Sedation in the Performance of Diagnostic Upper Gastrointestinal Endoscopy: A Canadian Randomized Controlled Cost-Outcome Study. *Am J Gastroenterol* 99: 1692-1699;

2 S Vradelis, , N Maynard, B F Warren, S Keshav, S P L Travis Quality control in upper gastrointestinal endoscopy: detection rates of gastric cancer in Oxford 2005–2008. *Postgrad Med J* 2011;87:335-339

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