

Upper Gastrointestinal Endoscopy in El Obeid, Western Sudan: Analysis of the First 1150 Cases.

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Abstract:

Objectives: To study the pattern of upper gastrointestinal diseases as appeared after introduction of endoscopic services for the first time in El Obeid, Western Sudan.

Patients and Methods: This is a retrospective descriptive study. The records of individuals who underwent upper gastrointestinal endoscopies during 2003 to 2007 in El Obeid Police Hospital and El Obeid Teaching Hospital were reviewed. The data were analyzed for gender, age, locality and the outcomes of the procedure.

Results: 1150 upper gastrointestinal procedures were performed. There were 656 males (57%). The mean age was 42.5 years (\pm 17.1 STD). 65% were between 21 and 50 years of age. 26.3% of the persons endoscoped were found to be macroscopically normal. Of those who had positive endoscopic findings; 29.7% had oesophagitis, 36.9% chronic gastritis and 16.3% duodenitis. Cancer of the oesophagus was diagnosed in 5.9% of cases while cancer of the stomach in 4.5%. Duodenal ulceration was seen in 5.6% of patients and oesophageal varices were found in only 2.7% of cases.

Conclusion: Upper gastrointestinal endoscopy is a safe and useful procedure for investigating patients with gastrointestinal complaints. Expansion of the service with the provision of more endoscopes, more relevant accessories and training is recommended to supplement diagnosis and facilitate therapeutic measures.

Key words: Endoscopy, gastrointestinal, Western Sudan.



Upper gastrointestinal diseases are leading causes of morbidity and mortality^{1, 2}. Upper gastrointestinal endoscopy (UGIE) has become a corner stone in the diagnosis and treatment of many of gastrointestinal disorders³. The direct visualization of the entire oesophagus, stomach and duodenum with the facility to obtain material for analysis and to perform various therapeutic measures, make endoscopy superior to other diagnostic procedures^{4, 5}.

Although UGIE was introduced 1973 in Khartoum⁶, 1983 in Wad Medani⁷ and later in many other hospitals across the country, this service only recently became available to the patients in El Obeid town.

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The first series of UGIE performed in El Obeid town were analyzed, compared with literature and the impact of the procedure on local health services was outlined.

Patients and Methods:

Patients with a wide range of complaints such as epigastric pain, dyspepsia, indigestion, heartburn, vomiting, haematemesis, dysphagia, swallowed foreign bodies were accepted for UGIE. Informed consents were taken from the patients or their sponsors. The endoscopy was performed as an outpatient procedure. The patient fasted overnight and the endoscopy was carried out electively early in the morning.

The throat was anaesthetized with local 2% lignocaine spray. All patients were put on the left lateral position for the procedure, which was done without any sedation. 5 patients (0.4%) refused the procedure and they were excluded.

The endoscopes used were the Olympus GIF type PQ20 and Karl Storz video endoscope 1380 IP, both were forward viewing instruments.

Results:

A total of 1150 patients underwent UGIE. There were 656 males (57%). The male: female ratio was 1.3:1. The age range was 12 to 95 years; the mean (\pm STD) was 42.5 (\pm 17.1) years. The age distribution was shown on table1.

Table 1: Age distribution.

Age groups in years	N	%
11- 20	064	05.6
21- 30	304	26.5
31- 40	277	24.1
41- 50	166	14.4
51- 60	129	11.2
61- 70	147	12.8
71- 80	059	05.1
> 80	004	00.3
Total	1150	100.00

65% were between 21 and 50 years of age. 483 patients (42%) were from El Obeid town and the rest were mainly from rural areas in Kordofan states. 302 (26.3%) of the patients endoscoped were found to be macroscopically normal.

The pattern of positive endoscopic findings was shown on table 2.

Comparisons between the endoscopic diagnosis found in our study with similar studies done in Khartoum, Seychelles and Afghanistan were shown in table 3.

Discussion:

Sudan is a large country with varying environmental regions and the inhabitants belong to wide ethnic diversities with different cultures and social habits.

Our hospital serves more than 3.5 million

people in Kordofan States, apart from others reporting from the nearby South and Darfur regions. The population is experiencing rapid modernization and extra stress imposed by desertification, displacement, tribal conflicts and war. UGIE service became available only recently in 2003, and this is the first documentation of its impact on the local health system since its implementation.

Table 2: Pattern of endoscopic findings.

Diagnosis	N*	%
Oesophagitis	247	29.7
Hiatus hernia	059	07.1
Oesophageal varices	022	02.7
Oesophageal cancer	049	05.9
Gastritis	307	36.9
Gastric erosions	041	04.9
Gastric ulcer	016	01.9
Gastric cancer	037	04.5
Duodenitis	136	16.3
Duodenal ulcer	047	05.6

* More than one pathology appeared in some patients.

In this study males predominated (57%), and 65% of cases were between 21 and 50 years of age. Similar to earlier report from Khartoum⁶, 26.3% of the individuals endoscoped were found to be macroscopically normal. However, this differs from other studies done in Sudan and elsewhere⁸⁻¹³. Many of such persons may qualify for non-ulcer dyspepsia syndrome. Screening for Helicobacter pylori was not feasible at the study time.

Inflammation of the fore gut was the commonest pathology found (82.9%) i.e. oesophagitis 29.7%, chronic gastritis 36.9% and duodenitis 16.3%. The prevalence of hiatus hernia (7.1%) and gastric erosions (4.9%) may add to this. In a similar society chronic gastritis was found in 25.8% of cases in Kenya¹⁴.

Table 3: The endoscopic findings in some studies.

Diagnosis	El Obeid*	Khartoum ⁸	Seychelles ¹¹	Afghanistan ¹²
	N=833 %	N=2698 %	N= 591 %	N=311 %
Oesophagitis	29.7	07.7	15.9	14.1
Hiatus hernia	07.1	05.0	02.8	11.6
Oesophageal varices	02.7	18.3	02.2	- -
Oesophageal cancer	05.9	06.0	03.0	25.7
Chronic gastritis	36.9	05.8	23.5	10.3
Gastric erosions	04.9	--	- -	04.5
Gastric ulcer	01.9	01.8	06.0	04.8
Gastric cancer	04.5	02.9	02.1	02.6
Duodenitis	16.3	05.4	- -	10.6
Duodenal ulcer	05.6	43.3	26.0	15.4

* This study.

Possible underlying causes may be ingestion of hot meals, *Helicobacter pylori* infection, consumption of alcohol and smoking. A more in depth look into these factors and others needs to be addressed. However duodenal ulcer had low prevalence and accounted for 5.6% of our patients, while it was reported as 10% from Gezira region in central Sudan. Higher incidence of duodenal ulcer was found in other parts of the world¹³⁻¹⁷.

Comparable to Seychelles⁸, oesophageal cancer was seen in 5.9% of our patients. This is different from the 25.7% found in Afghanistan¹³. Whether the high prevalence of chronic oesophagitis predisposes to the condition, needs to be revealed. All patients were referred to higher centers for surgery or radiotherapy as both were not feasible here. In this study gastric cancer (4.5%) is not uncommon. Two peaks of the disease were noticed: at the beginning of the third decade and in elderly patients. All patients were diagnosed in late stages and only palliation could be offered.

Oesophageal varices (2.7%) were rare compared to the 21.9% of cases reported from Gezira in Central Sudan⁷. Most of our patients were travelers to our town or citizens who had history of visits to the endemic Bilharzial area of El Gezira as seasonal workers in the past.

They presented with haematemesis and/or melena.

63 of our patients were more than 70 years old. Nevertheless we found the procedure in elderly persons safe, tolerable and without any complications. Similar observations were made before¹⁸.

Conclusion:

In conclusion; establishment of UGIE in the health delivery service here resulted in a high diagnostic yield of many gastrointestinal disorders. The frequency of diseases noted in this study gives an approximate epidemiological outline of upper gastrointestinal pathology in this community. Expansion of the service with the provision of more endoscopes, more relevant accessories and training, is recommended to supplement diagnosis and facilitate therapeutic measures.

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