International Surgery Journal
Padma S et al. Int Surg J. 2018 Mar;5(3):965-970
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: http://dx.doi.org/10.18203/2349-2902.isj20180812

Original Research Article

Disease pattern by upper gastrointestinal endoscopy in rural areas of Tiruchirappalli district carried out at CMCH and RC Irungalur, retrospective study and comparative analysis with other contemporary studies in India

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Received: 22 December 2017
Accepted: 30 January 2018

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ABSTRACT

Background: Dyspepsia is one of the symptoms of upper Gastro Intestinal diseases which are commonly encountered in clinical practice both in urban and rural areas. The upper gastric intestinal diseases causing dyspeptic symptoms are numerous. The upper GI Endoscopy is one of the essential investigations to evaluate the cause of upper GI tract disease. Retrospective study was done to know the pattern of upper GI tract diseases by upper GI endoscopy in CMCH and RC and compare this study with other studies from south India as well with other regions of India.
Methods: Endoscopy data base records of 2198 patients who underwent upper GI endoscopy between September 2014 to August 2016 were taken from Endoscopy Register of Gastroenterology Department at CMCH and RC. Statistical analysis was done based on disease presented and diagnosis. The results were compared with similar published studies in other parts of India.
Results: Positive yield was 94%, Male, female distribution was 61.78% and 38.21%. Among the benign lesions, lesions of stomach constituted 52.3%, oesophageal lesions 24.6%, duodenal lesions 7.8%. Of the benign lesion, gastritis constitutes the 44.9%, varices 8.9%, and lax LES with oesophagitis 8.1% were the leading findings in endoscopic diagnosis. Malignancy distribution was stomach 1%, malignancy oesophagus 2.1%.
Conclusions: Upper GI lesion was common in males. The incidence of benign lesion was high compared to malignant lesion. Irrespective of the type of population, gastritis was the commonest finding. The incidence of malignant lesion was found little higher in some studies which may require specific studies to understand the causative factors.

Keywords: Dyspepsia, Gastritis, Upper GI endoscopy

INTRODUCTION

Dyspepsia is a group of symptoms that includes upper abdominal discomfort or pain which may be intermittent or persistent, may or may not be associated with belching, bloating, heart burn, nausea, or vomiting.[1,2] The causes for dyspepsia are numerous which include gastritis, Peptic ulcer disease, oesophageal reflux disease, gastric carcinoma etc. India is a vast country with different types of people with different socio-economic condition and dietary habits. The pattern of upper GI tract diseases may vary from place to place. Previously the diagnosis of upper GI tract was based on clinical and barium meal studies. Now the upper GI endoscopy plays a prominent role in diagnosing as well as treating the upper GI tract diseases effectively.

The upper GI-endoscopy study helps to know the disease pattern in the particular area and provides the base for epidemiological studies to identify the risk factors causing the particular upper GI tract disease. Comparison of study from one region with studies from other regions in India, may provide the knowledge about prominent upper GI tract disease in that region which may require prospective study to eliminate the cause. This study has been carried out to know the pattern of various upper GI diseases diagnosed with upper GI endoscopy in the rural area of Tamilnadu and comparing it with similar studies in other parts of India.

METHODS

This was the retrospective study of the upper GI endoscopy data recorded in the Medical Gastroenterology Department of Chennai Medical College Hopital and Research Centre from September 2014 to August 2016.

Patients with symptoms of dyspepsia, difficulty in swallowing, blood in vomiting, unexplained weight loss, loss of appetite, upper abdominal discomfort were included in the study. Who attended the gastroenterology outpatients section and also patients referred from other wards, screened by Gastroenterologist for upper GI endoscopy, were the subjects of this study.

The data was classified based on the age group, gender, types of diseases and the diagnosis and analyzed to study the pattern using Microsoft Excel program. The results of the analysis were compared with like to like results of studies from other parts of south India and other regions of India to find out similarities and dissimilarities for evaluation.

RESULTS

The endoscopic findings of the patients with dyspepsia disease reveal that 1358 were males (61.78%) and females 840 (38.21%) (Table 1). The endoscopic findings were normal in 131 (6%) patients (Table 1).

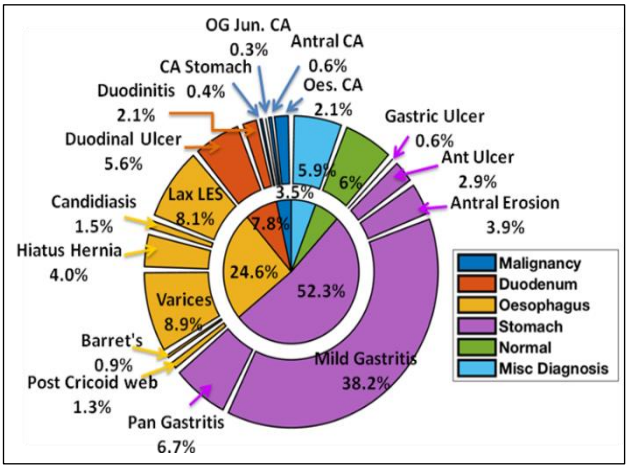

Figure 1: Distribution of diseases.

Table 1: Summary.

Group	Diagnosis	Male patients	Female patients
Normal	Normal	68	63
Malignancy	Oesophageal CA	24	23
	OG Junction CA	4	3
	Antral CA	8	6
	Body of the stomach	8	1
Duodenal diseases	Duodinitis	32	15
	Duodinal ulcer	93	31
Oesophageal diseases	Lax LES - esophagitis	116	62
	Candidiasis	19	13
	Hiatus hernia	46	41
	Varices	136	59
	Barret's oesophagus	14	6
	Post cricoid web	12	17
Stomach/gastric diseases	Pan gastritis	120	28
	Mild gastritis	451	388
	Antral erosion	53	32
	Antral ulcer	34	29
	Gastric ulcer	11	3
Misc diagnoses	Congestive gastropathy	45	6
	Oesophageal ulcer	4	3
	Fundal gastritis	16	4
	PHG	21	5
	Duodenal diverticulum	9	1
	Duoeinal erosion	9	1
	OG Junction polyp	3	0
	Periampullary adenoma	1	0
	Periampullary carcinoma	1	0
Total		1358	840
Grand total		2198	

The abnormal findings include Gastritis (both mild and Pan gastritis) in 987 cases (44.9%), lax LES with oesophagitis in 178 cases (8.09%), oesophageal varices in 195 cases (8.9%), Duodenal ulcers in 124 cases (5.6%), antral erosion in 85 (3.9%) cases, gastric ulcer (includes both body of stomach and antral ulcer) in 77 Cases (35%), Gastric carcinoma in 23 cases (1%), oesophageal Carcinoma in 47 cases (2.1%), and carcinoma in OG junction in 7 cases (0.3%) (Table 1, Figure 1).

The incidence of gastritis was more in the 31-50 age groups (Figure 3). Gastric ulcer was more in the age group 40-60 years (Figure 3).

Duodenal ulcer was more common in male population and was more predominant in the 30-60 age groups (Figure 4). Distribution of diseases in various age groups is shown in Figure 3-6. The oesophageal carcinoma was high in males in the 61-70 age groups (Figure 5).

Table 2: Sex wise comparative studies of Indian Population in South Indian rural, urban and other than south Indian areas.

Study	Male	Female
Rural area		
Javali et al[4]	61.6%	38.4%
Chellappa P et al[6]	61.4%	38.6%
Arjun et al[5]	59.85%	40.15%
Present study	61.78%	38.21%
Urban area		
Antony B, et al[3]	61%	38%
Khaliq M, et al[7]	63.6%	36.4%
Sumathi et al[17]	60.22%	39.8%
Other than South India		
Desai SB, et al[8]	70.8%	29.2%
Khan Y, et al[14]	64.9%	35.1%
Kumar S, et al[10]	51.4%	48.6%
Ingty et al[15]	61.03%	38.9%
Present study	61.78%	38.21%

Table 3: Studies of South Indian population in rural and urban areas.

Rural	Positive yield	Normal study
Javali et al[4]	85.5%	14.5%
Chellappa P, et al[6]	34.9%	65.1%
Arjun et al[5]	86%	14%
Urban		
Antony B, et al[3]	80.6%	19.4%
Khaliq M, et al[7]	69.2%	30.8%
Present study	94%	6%

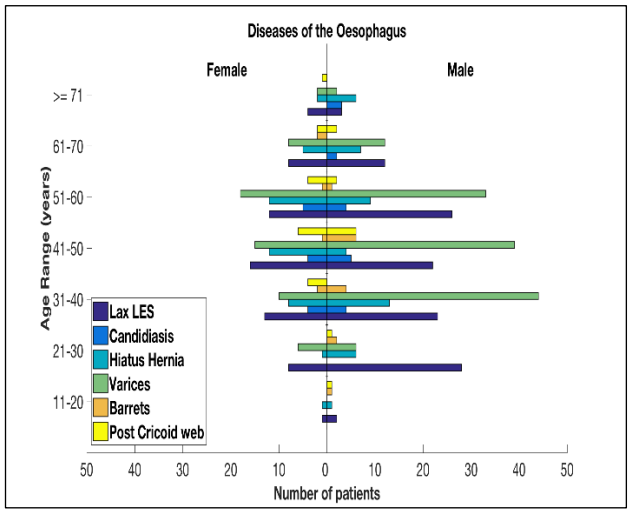

Figure 2: Age wise distribution of oesophageal diseases.

The other miscellaneous lesions include congestive gastropathy, oesophageal ulcer, fundal gastritis, PHG, duodenal diverticulum etc. are given in Table 1.

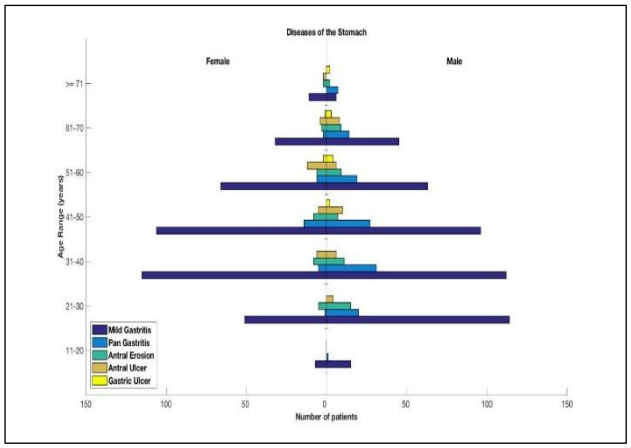

Figure 3: Age wise distribution of gastric diseases.

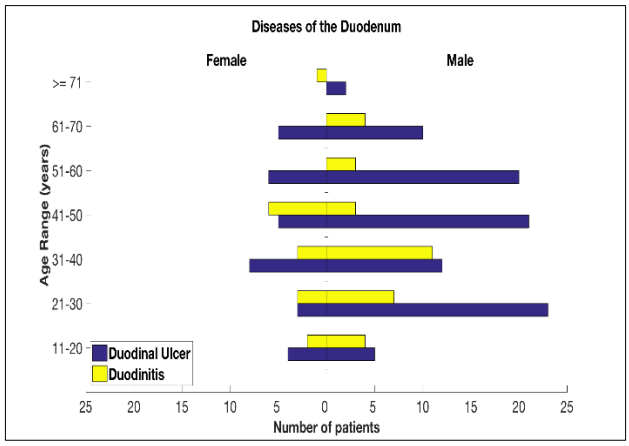

Figure 4: Age wise distribution of duodenum.

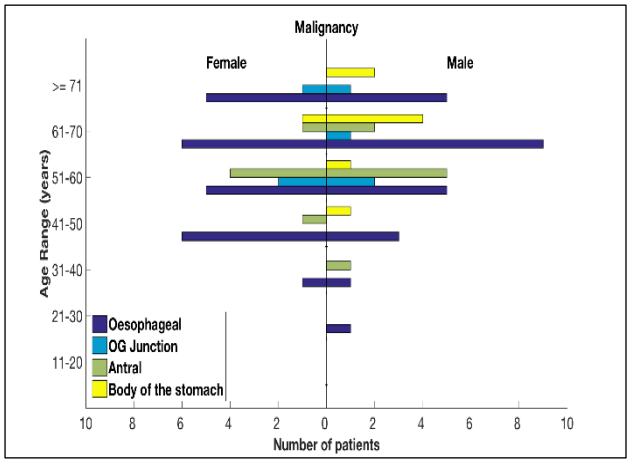

Figure 5: Age wise distribution of malignancy.

DISCUSSION

Shrestha R et al has reported a male and female incidence of 46.52% and 53.48 %.[9] Khan N et al reported incidences of 70% and 30%.[16] Study at the Institution revealed the incidence of male and female was 61.78% and 38.21% respectively and found almost equivalent to

the other studies in rural population of South India and other areas in India as shown in Table 2.

The positive yield was 94% in the present study and the yield was high in comparison to other studies in rural population (Table 4). The proportion of normal study in the Institution was 6% which is less compared with other studies (Table 4).

Table 4: Disease wise study of Indian Population in South Indian rural, South Indian urban and other than south Indian areas.

Study	Gastritis	Duodenitis	Reflux and esophagitis	Gastric ulcer	Duodenal ulcer
Rural area					
Javali et al[4]	39.3%	6.16%	6.8%	0.8%	2.5%
Chellappa P, et al [6]	10.3%	1.3%	12.7%	1.1%	1.1%
Arjun et al[5]	79.1%	33.4%	2.37%	-	-
Present study	44.1%	2.1%	8.1%	3.5%	5.6%
Urban area					
Antony B, et al[3]	51.1%	22 %	16.1%	4.3%	2.6%
Sumathy et al[17]	12.2%	7.7%	5.1%	5.3%	10.9%
Present study	44.1%	2.1%	8.1%	3.5%	5.6%
Other than South Indian area					
Desai et al[8]	23.4%		4.43%	25.92%	
Khan Y, et al[14]	25.1%	5.1%	3.5%	6.7%	4%
Kumar S, et al[10]	48.2%	53.2%	8.4%	6.6%	18.6%
Ingty et al[15]	28.5%	15.3%	9.5%	4%	2.8%

Table 5: Incidence of carcinoma study of Indian Population in South Indian rural, South Indian urban and other than south Indian areas.

Study	Oeophageal carcinoma	OG junction carcinoma	carcinoma body of stomach and antral	Peri ampullary carcinomaor ca duodenum
Rural South India				
Javali et al[4]	4.5%	-	4.6%	0.5%
Chellappa P, et al[6]	0.5%	-	0.8%	0.5%
Arjun et al[5]	-	-	2.03%	-
Present study	2.1%	0.3%	1%	0.04%
Urban South India				
Antony B, et al[3]	0.7%	0.5%	2.3%	0.1%
Khaliq M, et al[7]	1.6%	0.2%	2.37%	0.3%
Other than South Indian				
Khan Y, et al[14]	3.7%	-	4.6%	-
Kumar S, et al[10]	2.26%	-	2.8%	-
Ingty et al[15]	4.45%	-	2.89	-

Shresta R et al reported the incidence of gastritis at 41.6% which was almost to equivalent to the present study of 44.1%.[9] On comparing the data with other rural population, the incidence of gastritis was found to be high in all the studies compared to other diseases irrespective of rural or urban study (Table 4).

Duodenitis was reported as 24.85% by Ao M et al, and 16% by wuru A et al.[11,13] The incidence of duodenitis in the present study was 2.1% while the report from Shresta R et al indicates 3.38%.[9]

On comparing with other rural population, increased incidence noted in Arjun et al was 33.4% and Kumar S et al was 53.2% (Table 4).[5,10]

The incidence of reflux oesophagitis in the present study was 8.1 % which was consistent with study from Ingty et al 9.5%.[15] The study was compared with other studies which shows that the incidence reported by Arjun et al is 2.37% and 16.1% by Antony B et al (Table 4).[3,5]

Mohammed K et al reported gastric ulcer in 3.7% of the cases.[12] The incidence of gastric ulcer was low at 3.5% in the present study compared to the urban study by Antony

B et al of 4.3% and Sumathy et al was 5.3%.[3,16] The observation in population in other parts of India is almost equal to the study by Sumathy et al (Table 4).[16]

The incidence of duodenal ulcer in study by Mohammed K et al was 8.7%.[12] The incidence of duodenal ulcer in the present study was 5.6% which was high when compared to other rural population of South India, but was less compared to the study done by Sumathy et al which was 10.9% and 18.6% by Kumar S et al.[10,16]

The incidence of oesophageal cancer in the present study was 2.1 % which was higher compared to study by Babu Antony et al 0.7% and 1.6% Khaiiq M et al.[3,7] The study was compared with other rural population of South India where such incidence was high with Javali et al, 4.5% and Ingty et al, 4.45%.[4,15]

The incidences of gastric malignancy in the present study were 1%. However, Increased incidence of 4.6% was reported by Javali et al and Khan Y et al in other regions.[4,14]

The incidence of oesophageo gastric junction carcinoma in the present study was 0.3%, consistent with the study of Antony B et al was 0.5% and by Khaliq M et al was 0.2%.[3,7] The miscellaneous pathologies as in Table 1 was 5.9% which was slightly greater than the study done by Khan Y et al at 3.5% and lower than 7% reported by Khaliq M et al.[7,14]

CONCLUSION

Upper GI endoscopy is the essential procedure to identify the specific pathology in patients presenting with upper GI tract disease. In the present study the positive yield was high which may be due to the meticulous selection of the cases for endoscopy by the gastroenterologist. In all the studies, upper GI tract diseases were predominant in Males. On comparative study of various regions in the India, the gastritis was found to be the leading problem irrespective of rural or urban regions, which needs prospective study to evaluate the causative factors for gastritis in each area and take steps to prevent the disease. The incidence of duodenal ulcer is high in the present study which indicates the need for epidemiological study in the area. In some rural study the incidence of malignancy is little high (Maharashtra and Karnataka and Chaatisgarh which require further epidemiological study).

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Padma S, Murugan R. Disease pattern by upper gastrointestinal endoscopy in rural areas of Tiruchirappalli district carried out at CMCH and RC Irungalur, retrospective study and comparative analysis with other contemporary studies in India. Int Surg J 2018;5:965-70.