Short Communication

AN ANALYSIS OF REFERRAL, INDICATIONS AND RESULTS OF ESOPHAGEAL MANOMETRY AT A REFERRAL CENTRE IN CENTRAL INDIA

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ARTICLE INFO

Aim of the study- To analyze the referral pattern, indications and results of esophageal manometry in our setting.

Methods- In this retrospective study, manometry records of all consecutive patients who underwent esophageal manometry from January 2013 to June 2015 were analyzed. The results were interpreted as per Chicago classification v.3.0. The data was entered in Microsoft excel sheet and analyzed using necessary tests.

Results- A total of 220 patients with a mean age of 45 years and male to female ratio of 7:4 formed the study group. The indications for manometric evaluation included- dysphagia (87,39.54%), gastroesophageal reflux(76,34.54%) , non-cardiac chest pain(25,11.36%), dyspepsia(20,9.09%) and prior to fundoplication surgery(12,5.45%). , 39.1% patients could be diagnosed with a definitive motility disorder while 29% had ineffective motility or frequently failed peristalsis. 36% patients had a normal study.

Conclusions- Esophageal manometry in our setting is done mainly for dysphagia and reflux symptoms. The main referrals are from fellow gastroenterologists and surgeons. In 39% of cases, a definite diagnosis is possible. Achalasia cardiaca is the most common cause of motor dysphagia.

Keywords: Esophageal, manometry, referral, Indian
INTRODUCTION:
The gold standard for evaluation of esophageal motility disorders is esophageal manometry. In India, there has been a steady rise in the number of centers offering this procedure in recent years. However, the indications for referral and impact on patient management have not been studied. The aim of the present study was to analyze the referral pattern, indications and results of esophageal manometry in our setting. The present study was done at a 400-bedded teaching hospital catering to middle and low socioeconomic group of patients. It is the only center in our state offering manometry services since last five years and hence most cases get referred here.

MATERIALS AND METHODS
This is a retrospective study. The manometry records of all consecutive patients who underwent esophageal manometry from January 2013 to June 2015 were analyzed for referral pattern, indications and results. All studies were done by a single observer using 16 channels, water perfused system (Ready Stock, Australia). The basal LES pressures were recorded for 1 minute. All studies were done in right lateral position with ten swallows of 5 ml water each. The results were interpreted as per Chicago classification v.3.0. The data was entered in Microsoft excel sheet and analyzed using necessary tests.

RESULTS
A total of 220 patients with a mean age of 45 years and male to female ratio of 7:4 formed the study group. Forty patients (18.18%) were from self-referral while 180 patients (81.82%) were through outside referrals. The main referrals were from gastroenterologists (118/180, 65.55%), surgeons (60/180,33.33%) and pediatricians (2/180, 1.11%). The indications for manometric evaluation included- dysphagia (87,39.54%), gastroesophageal reflux (76,34.54%), non-cardiac chest pain(25,11.36%), dyspepsia(20,9.09%) and prior to fundoplication surgery(12,5.45%). The manometric findings in each group are mentioned in table 1.

<table>
<thead>
<tr>
<th>Indication/diagnosis</th>
<th>Normal study</th>
<th>Achalasia type 1</th>
<th>Achalasia type 2</th>
<th>Achalasia type 3</th>
<th>Diffuse esophageal spasm</th>
<th>Hypertensive peristalsis</th>
<th>Ineffective esophageal motility</th>
<th>Frequently failed peristalsis</th>
<th>Absent peristalsis in distal 2/3</th>
<th>Cricopharyngeal achalasia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dysphagia (87)</td>
<td>8(9.19%)</td>
<td>20(22.98%)</td>
<td>18(20.68%)</td>
<td>13(14.9%)</td>
<td>9(10.3%)</td>
<td>6(6.89%)</td>
<td>12(13.79%)</td>
<td>-</td>
<td>-</td>
<td>1(1.1%)</td>
</tr>
<tr>
<td>Reflux (76)</td>
<td>39(51.3%)</td>
<td>5(6.57%)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8(10.5%)</td>
<td>22(28.9%)</td>
<td>2(2.63%)</td>
<td></td>
</tr>
<tr>
<td>Chest pain(25)</td>
<td>11(44%)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7(28%)</td>
<td>-</td>
<td>7(28%)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Dyspepsia (20)</td>
<td>15(75%)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2(10%)</td>
<td>-</td>
<td>3(15%)</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Prior to fundoplication (12)</td>
<td>7(58.3%)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3(25%)</td>
<td>-</td>
<td>2(16.6%)</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Total (220)</td>
<td>80(36.66%)</td>
<td>25(11.36%)</td>
<td>18(8.18%)</td>
<td>20(9.09%)</td>
<td>9(4.09%)</td>
<td>6(2.72%)</td>
<td>32(14.5%)</td>
<td>22(10%)</td>
<td>7(3.2%)</td>
<td>1(0.4%)</td>
</tr>
</tbody>
</table>
DISCUSSION

The American Gastroenterology Association\(^1\) and the British Society of Gastroenterology\(^2\) have published guidelines, which have been used to define the indications and clinical use of manometry. The decisions to refer for manometry is likely to depend on availability of investigation, practice setting, academic versus corporate institutions and socioeconomic strata to which the hospital caters. Hence, it is imperative to know the clinical utility and applicability of the diagnostic modality in a particular setting.

In this study, the clinical utility of esophageal motility testing in a tertiary level, teaching hospital in Central India has been studied. Most of the patients are referred from fellow gastroenterologists and surgeons. This shows the lack of awareness among doctors of other specialties regarding this procedure. The most common indication for manometry in our study was assessment of esophageal motility in patients with dysphagia, followed by evaluation for reflux disease and chest pain. Evaluation for motility disorders prior to fundoplication surgery formed a small subset of referral patients. This is in contrary to the trend in the west. There, manometry is more commonly used for assessment before anti reflux surgery and for dysphagia, and the use in the assessment of chest pain is declining.\(^3\)

The utility of a test depends on its ability to offer a definite diagnosis or lead to a significant change in clinical management. This holds true for esophageal manometry as well. In our study, 39.1% patients could be diagnosed with a definitive motility disorder while 29% had ineffective motility or frequently failed peristalsis. 36% patients had a normal study. Normal studies were more common in patients referred for reflux symptoms and chest pain than in patients referred for dysphagia evaluation. Three fourths of patients referred for manometric evaluation with dyspepsia had a normal study. In 6.57% of patients who were referred with reflux symptoms, achalasia type 1 was diagnosed. There have been reports of patients suffering from GERD subsequently developing achalasia. A few of these patients have had mild and intermittent dysphagia accompanying reflux symptoms. The exact pathophysiology of this association is not clearly understood. It has been suggested that the autonomic damage eventually leading to achalasia may in its initial phases cause gastro-esophageal reflux.\(^4,5\)

Non-cardiac chest pain was an indication for motility testing in only 11.36% of our patients. In 44% of these patients, the manometric evaluation was normal. However, in seven patients, a diagnosis of type 3 achalasia was made. An equal number showed ineffective motility. This has been noted, in a prior Indian study, that type 3 achalasia presents with chest pain more often than type one or two.\(^6\) In a previous study from our center, we had noted motility disorders in 19% of patients with non-cardiac chest pain and normal endoscopy. The causes of motility disorders were- achalasia, diffuse esophageal spasm and nut cracker esophagus mainly.\(^7\)

To conclude, esophageal manometry in our setting is done mainly for dysphagia and reflux symptoms. The main referrals are from fellow gastroenterologists and surgeons. In 39% of cases, a definite diagnosis is possible, mainly in those referred for dysphagia. Achalsiacardia is
the most common cause of motor dysphagia.

REFERENCES


7) Mayank Jain. Evaluation of noncardiac chest pain in Indian setting-Can we reduce the investigation burden? Indian J Gastroenterol 2015; 34(3)