

A study of therapeutic role of upper GI endoscopy at tertiary health care centre

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Abstract

Background: As the child grows, explores and interacts with their local habitat they inevitably put foreign bodies into their mouths, ingesting a small proportion of them. Of over a 100000 cases of foreign body ingestion worldwide each year, more than 80% occur in children, mainly between the ages of 6 months and 3 years. **Aims and Objectives:** To study therapeutic role of upper GI endoscopy at tertiary health care centre. **Methodology:** This was a cross-sectional study carried out in the patients who were referred to upper GI endoscopy for therapeutic purpose in one year period i.e. January 2017 to January 2018, so in the one year period there were 21 patients, after the written consent of parents in case of children were enrolled to study, all of them undergone all routine tests like CBC, X-ray, USG, were undergone therapeutic Endoscopy by all aseptic precaution and standard protocol. The information was entered to excel sheet and analyzed by Excel software for the windows 10 version. **Result:** In our study we have seen that the majority of the patients were children in that most common age group was 1-5 Yrs. was 52.38%, followed by 5-10 were 33.33%, 10-15 were 9.52%, ≥ 15 were 4.76%. The majority of the patients female patients i.e. 66.67% and Males were 33.33%. The most common findings on endoscopy was Foreign Body in Esophagus in 71.43%, followed by Foreign Body in stomach in 14.29%, Trichobezar in 9.52%, Achalgia cardia at GE Junction in 4.76%. Out of 18 Foreign Body all of them removed successfully, Out of 2 Trichobezar one removed but other removal was unsuccessful was found in stomach it required explorative laprotomy, Achalgia cardia at GE Junction was corrected by Balloon dilatation. So out of 21 patients only one case was unsuccessful so success rate of Endoscopy was very high i.e. 95.23%. **Conclusion:** It can be concluded from our study that the majority of the patients were children in that most common age group was 1-5 Yrs. The most common findings on endoscopy were Foreign Body in various sites of GIT, Trichobezar, Achalgia cardia and success rate of Endoscopy was very high i.e. 95.23%. **Key Word:** GI endoscopy, Trichobezar, Achalgia cardia.

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INTRODUCTION

With reduction in its size in the early 1970s, a few paediatricians began to adopt this new tool to examine the upper digestive tract¹. During the late 1970s, the diagnostic value of endoscopy was slowly replacing the requirement of contrast radiology in the paediatric setting^{2,3}. Subsequently, the first commercially available slim scope became available, the Olympus GIF-P, which was used in a few select paediatric centres around the world. However it was not till 1981 when the first European workshop on paediatric gastrointestinal was held, that a dedicated scope for paediatric use was developed, Olympus GIF-XP, which had an outer diameter of 7.8 mm. Consequently, other models by Fuji and Pentax were developed for the developing paediatric market.

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METHODOLOGY

This was a cross-sectional study carried out in the patients who were referred to upper GI endoscopy for therapeutic purpose in one year period i.e. January 2017 to January 2018, so in the one year period there were 21 patients, after

the written consent of parents in case of children were enrolled to study, all of them undergone all routine tests like CBC, X-ray, USG, were undergone therapeutic Endoscopy by all aseptic precaution and standard protocol. The information was entered to excel sheet and analyzed by Excel software for the windows 10 version.

RESULT

Table 1: Distribution of the patients as per the age

Age	No.	Percentage (%)
1-5	8	52.38
5-10	6	33.33
10-15	2	9.52
≥15	1	4.76
Total	21	100.00

The majority of the patients were children in that most common age group was 1-5 was 52.38%, followed by 5-10 were 33.33%, 10-15 were 9.52%, ≥15 were 4.76%.

Table 2: Distribution of the patients as per the sex

Sex	No.	Percentage (%)
Female	14	66.67
Male	7	33.33
Total	21	100.00

The majority of the patients female patients i.e. 66.67% and Males were 33.33%.

Table 3: Distribution as per the various findings on endoscopy

Findings	No.	Percentage (%)
Foreign Body in Esophagus	15	71.43
Foreign Body in stomach	3	14.29
Trichobezar	2	9.52
Achalgia cardia at GE Junction	1	4.76
Total	21	100.00

The most common findings on endoscopy was Foreign Body in Esophagus in 71.43%, followed by Foreign Body in stomach in 14.29%, Trichobezar in 9.52%, Achalgia cardia at GE Junction in 4.76%.

Table 4: Distribution of the patients as per the Endoscopic procedure done

Findings	Procedure done	No.
Foreign Body in Esophagus	Removed	15
Foreign Body in stomach	Removed	3
Trichobezar	One removed other failed to remove found stomach → Explorative laprotomy done	2
Achalgia cardia at GE Junction	Balloon dilatation	1
Total		21

Out of 18 Foreign Body all of them removed successfully, Out of 2 Trichobezor one removed but other removal was unsuccessful was found in stomach it required explorative laprotomy, Achalgia cardia at GE Junction was corrected by Balloon dilatation. So out of 21 patients only one case was unsuccessful so success rate of Endoscopy was very high i.e. 95.23%.

DISCUSSION

The role of therapeutic intervention in the paediatric upper gastrointestinal tract can be divided broadly into (1) emergency and² elective procedures as summarized Imdadur Rahman *et al*¹⁸ by. Emergency procedures The two most common scenarios faced by the paediatric gastroenterologist is foreign body ingestion in the upper

gastrointestinal tract (for example inanimate objects or food bolus and upper gastrointestinal tract bleeding. Foreign body removal: As the child grows, explores and interacts with their local habitat they inevitably put foreign bodies into their mouths, ingesting a small proportion of them. Of over a 100000 cases of foreign body ingestion worldwide each year, more than 80% occur in children,

mainly between the ages of 6 months and 3 years³⁻⁵. Fortunately most foreign bodies that enter, pass through the gastrointestinal tract spontaneously, with only about 10%-20% requiring endoscopic removal and less than 1% require surgical removal^{3,6}. Deaths are extremely rare but they have been reported^{5,7}. The types of objects vary with geography but in the western world, coins are the most frequently encountered foreign body, while in the eastern world, fish bones account for a greater percentage^{5,8}. Objects such as batteries or safety pins can add a degree of complexity and risk to foreign body retrieval. After initial workup with a detailed history and biplane X-rays (antero-posterior and lateral), intervention depends on three factors;¹ the object ingested² location of the object and³ the age of the patient. The location is often in areas of physiological narrowing; the upper oesophageal sphincter, the level of the aortic arch, lower oesophageal sphincter or the dependent part of the stomach, usually the gastric fundus^{6,9}. It is important to note that the location of the pain or symptom does not always correlate with the associated site of impaction (visceral innervation)¹⁰. In the very young, due to the compressibility of the trachea, endoscopists need to be aware that even relatively small objects can potentially cause serious tracheal compression leading to respiratory compromise. There are various methods to remove foreign bodies, with the flexible gastroscope being preferred as it allows direct visualisation, manipulation and observation of any potential injury to the adjacent mucosa^{11,12}. The endoscopist should have an array of equipment readily available including polyp snares, alligator forceps, rat-tooth forceps, net baskets and overtubes. Magill forceps, angled forceps commonly used in anaesthesia, are sometimes sufficient to remove a variety of objects in the oropharynx or upper oesophagus providing direct vision is possible. This may require the use of general anaesthesia and a laryngoscope to gently open up the oesophagus¹³. The use of a rubber or plastic dilator (Bougienage) may be used for foreign bodies impacted beyond the reach of forceps in the oesophagus to aid their passage into the stomach. However, careful consideration needs to be taken to assess that the object is judged able to pass along the oesophagus into the stomach without causing significant mucosal injury (e.g., blunt and small objects such as coins) The use of this technique is thus limited and most endoscopists would only advocate this in experienced hands and only in patients where there has been witnessed ingestion within 24 h without existing oesophageal disease^{14,15} An alternative method is extracting the object impacted in the oesophagus with the use of a Foley catheter. This technique involves passing the Foley catheter past the foreign body and inflating the balloon with radio-opaque dye, then with fluoroscopic guidance,

gently pulling on the catheter so the object is drawn back into the oral cavity and retrieved¹⁶ Many endoscopists do not advocate this technique in inexperienced hands as there is the risk of perforation or inadvertent placement of the foreign body into the trachea¹⁷ In our study we have seen that The majority of the patients were children in that most common age group was 1-5 was 52.38%, followed by 5-10 were 33.33%, 10-15 were 9.52%, ≥ 15 were 4.76%. The majority of the patients female patients i.e. 66.67% and Males were 33.33%. The most common findings on endoscopy was Foreign Body in Esophagus in 71.43%, followed by Foreign Body in stomach in 14.29%, Trichobezar in 9.52%, Achalgia cardia at GE Junction in 4.76%. Out of 18 Foreign Body all of them removed successfully, Out of 2 Trichobezar one removed but other removal was unsuccessful was found in stomach it required explorative laprotomy, Achalgia cardia at GE Junction was corrected by Balloon dilatation. So out of 21 patients only one case was unsuccessful so success rate of Endoscopy was very high i.e. 95.23%.

CONCLUSION

It can be concluded from our study that the majority of the patients were children in that most common age group was 1-5 Yrs. The most common findings on endoscopy were Foreign Body in various sites of GIT, Trichobezar, Achalgia cardia and success rate of Endoscopy was very high i.e. 95.23%.

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