ORIGINAL ARTICLE

ESOPHAGEAL FOREIGN BODIES: AN EXPERIENCE WITH RIGID ESOPHAGOSCOPE

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ABSTRACT

Background: Foreign body impaction in the upper aero-digestive tract is a common presenting problem to the ENT surgeons. We studied the results of rigid esophagoscopy for esophageal foreign bodies.

Methodology: This descriptive study was carried out in Saidu Teaching Hospital, Swat, from January 2006 to June 2009. Patients with history of foreign body impaction were included. Esophagoscopies were performed by ENT consultant with rigid esophagoscope. Age, sex, type of foreign body, site of impaction and underlying pathology were recorded. Dilatation of the strictures and webs was carried out. Biopsies were taken where indicated. Patients were kept in ward for 24 hours for observation after procedure.

Results: Among 212 patients, 132(63%) were males and 80(38%) females. Of these 128(60.26%) were <10 years age, 45(21.22%) >50, and 39(18.39%) in middle age groups. Coins 118(55.6%) were the most common foreign bodies followed by meat bolos 44(20.75%), dentures 15(7.07%), fish bone 15(7.07%), chicken bone 10(4.7%), battery cell, peach seeds artificial jewelry 2 each (0.94%), marble ball and bone chip 1 each (0.47%). Out of 212 patient 185 had no pathology while 27(12.73%) had underlying pathology; webs 9(4.74%), malignant neoplasm 7(3.30%), benign stricture 8(3.7%), achalasia, diverticulum and neopharynx 1 each (0.47%). In 202(95.28%) foreign body was removed, while in 10(4.07%) these passed spontaneously. Webs and benign strictures were successfully dilated. Biopsies were taken in 15(7%). No mortality and mild odynophagia was encountered.

Conclusion: Rigid endoscopy is still a gold standard diagnostic and therapeutic tool for upper aero-digestive tract pathologies. A second look after foreign body removal is essential to exclude any underlying pathology.

KEY WORDS: Foreign body, Esophagus, Rigid esophagoscopy.

INTRODUCTION

The human race will certainly never cease to insert different foreign bodies (FB) into its various orifices. For a century now, rigid endoscopy has been the method of choice for removing FB from the pharynx, esophagus, larynx and tracheo-bronchial tree.

Rigid system endoscopy has been a standard method of diagnosing diseases of the pharynx, esophagus and laryngo-tracheo-bronchial complex throughout 19th century. Despite recent increase in the use of flexible endoscopy, the place of rigid endoscopy still exists. It is suitable for tissue biopsy, removal of F.B and endoscopic dilatation of benign or malignant strictures of the esophagus.[1]

Foreign body impaction in the upper aero-digestive tract is one of the common presenting problem to the surgeon through out the world. In the esophagus foreign body tend to lodge in the site of natural constrictions at 15 and 25 cm, or due to motility pattern.[2]

It should be kept in mind that a significant proportion of impaction particularly in the elderly occurs at the site of benign or malignant strictures, while removing foreign bodies, facilities for biopsy and visualization of mucosa should be available.

A wide variety of foreign bodies that have impacted in the esophagus have been reported in literature, like fish bone, meat bolus, dentures, battery cells and coins. Meat bolus and dentures are common in elderly, while coins and battery cells are frequently removed in pediatric population.[3]

About one third of food boluses obstruct due to abnormalities of the esophagus and half of these will be carcinoma.[4]

In this study we assessed the results of rigid esophagoscopy for esophageal foreign bodies.

MATERIAL AND METHODS

The study has been carried out in ENT Unit Saidu Teaching Hospital, Swat from January 2006 to June 2009.

All patients were admitted through OPD and casualty who were having history of foreign body impaction. Informed written consent was taken giving information about the procedure and possible complications. All patients were subjected to rigid endoscopy under general anesthesia. All of them were carried out by ENT consultants. Plan radiography of the Neck lateral view in extension, X-rays Chest P.A view and routine screening test for HBsAg and Anti-HCV were done preoperatively. Proforma was designed for age, sex and type of foreign body. Site of impaction was recorded. Dilatation of the strictures and webs were carried out via rigid esophagoscope and recorded. After removing of the foreign body the site was searched for any underlying pathology and biopsy was taken from an obvious lesion. Patients were kept under observation for 24 hours in the ward. All biopsies were reported by the same pathologist.

RESULTS

Two hundred & twelve patients underwent this study. Among these 132 (62.26%) were males and 80 (37.73%) were females. Age range was from 1 to 80 years. Different type of foreign body were retrieved. (Table 1 & 2)

In 27 (12.73 %) patients pathologies were detected in relation to acute foreign body impaction. (Table 3)

Successful removal of FB was done in 202 (95.28%) cases while in 10 (4.7%) it passed spontaneously. Dilatation of webs and strictures was performed in 17 (8%) patients and biopsies were taken in 15 (4.24%) cases. No complication was observed except mild odynophagia.

DISCUSSION

In our study male to female ratio was 1.6:1 this fact has been reported by Adoga et al[5] and Li ZS et al[6] also reported the same ratio.

Age less than 10 years is the most common presenting age group for coins while meat boluses and dentures are common in old age, it is also reported in world literature that 0-10 years age group is the most commonly affected.[5,6]

Amongst the foreign bodies, coins were the most commonly occurring foreign bodies in his study which is in line with the study by Turkyilmaz et al[7] who also reported that coin is the most frequent FB in the European community while in Asia where fish is commonly used in diet, fish bone is the most common foreign body in the esophagus.[8] We have retrieved different F.B like metallic pieces, bone pieces, marble ball, battery cell and peach

Table 2: Type of foreign body.

Type of FB	Number	Percentage
Coins	118	55.6
Meat bolus	44	20.7
Dentures	15	7.07
Fish bone	15	7.07
Chicken bone	10	4.7
Battery cell	2	0.94
Peach seeds	2	0.94
Artificial jewelry	2	0.94
Metallic pieces	2	0.94
Marble ball	1	0.47
Bone chip	1	0.47
Total	212	100

Table 3: Type of pathology.

Pathology	Number	Percentage
Webs	9	4.24
Malignant neoplasm	7	3.30
Strictures	8	4.2
Achalasia	1	0.47
Neopharynx	1	0.47
Diverticulum	1	0.47
No pathology	185	87.26

Table 1: Different age groups of patients.

Age groups in years	Day 1 to 10	11-20	21-30	31-40	41-50	51-60	Above 60
Number of patients	128	15	9	6	9	25	20
Percentage	60.37	7.07	4.24	2.83	4.24	13.20	9.43

seeds which are also reported in the world literature.[6]

In our study 12.75% cases had underlying pathology after removal of FB like webs, strictures, carcinomas, achalasia, neophararynx and diverticulum. Litrerature review shows that one-third of FB stuckings are related to some underlying pathology.[3,6,9]

We had come across some unusual cases. Marble ball was the most difficult to remove; folly's catheter was tried but failed, its removal was made possible by passing alligator forceps beyond the ball and using one probe as a hook and rolled the ball along the wall of the esophagus.

Another case of denture with steel hook was difficult to be removed. The denture was removed but the hook got stuck in the wall, there was bleeding and visualization of the hook was difficult. Postoperative x-rays revealed that the hook was in situ. Cotton soacked in barium was given to the patient to swallow with the hope that it will get stuck to the hook and will help in indicating the site of the hook, but post barium swallow x-rays showed that the hook along with the cotton ball spontaneously passed. Other studies have also reported some unusual cases.[10]

Literature describe complications like mediastinitis, and esophageal perforation, while in our cases there was no morbidity and mortility excecpt mild odynophagia.[11]

We used rigid esophagoscope for the removal of foreign bodies and our success rate was 95.28%. Literature reports rigid esophagoscopy as the best way of removing foreign bodies. In selected cases fibroptic esophagoscope, foleys catheter, and bugies are also used as methods of removing foreign bodies and for dilation of the strictures.[5,7,8]

CONCLUSION

Rigid endoscopy is still a gold standard diagnostic and therapeutic tool in ENT for upper aero-digestive tract pathologies. A second look after FB removal must be given to exclude any underlying pathology.

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