

Pattern of Dysphagia in Calabar

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Summary

Archibong AE , Onoyom-Ita V and Asindi AA. Pattern of Dysphagia in Calabar. *Nigerian Journal of Paediatrics* 1993; 20:55. A retrospective study of dysphagia in 55 children, aged between six months and 12 years (mean age 4.3 years) in Calabar, has revealed foreign body impaction in the throat to be the commonest cause, occurring in 40.0 percent of the cases. Children, aged between five and 10 years, were commonly involved in foreign body impaction which was caused by coins and food (meat and fish bones) in 31.8 and 27.3 percent respectively, of the 22 cases. Oesophageal stricture due to accidental ingestion of caustic soda was found in 14.5 percent of the cases and involved children in the age group, six to eight years. The cause of dysphagia was however, unknown in 25.5 percent of the patients. Malnutrition (56.4 percent) and aspiration pneumonia (27.3 percent) were the major complications in the series. It is concluded that most of the causes of dysphagia in the series are preventable.

Introduction

In clinical practice, most physicians have, at one time or the other, seen children with accidental foreign body ingestion or inhalation, oesophageal strictures due to corrosive substances and neurological disorders of the oesophagus which result in dysphagia. ¹ Upper airway diseases, including pharyngotonsillar infection, may also cause dysphagia. Complications that may arise from the above conditions

include feeding difficulties, malnutrition, pneumonia or chronic lung disease, perforation of the oesophagus, haematemesis and malaena. ²⁻⁴ To the best of our knowledge, no study on dysphagia among our children, has been previously undertaken. Thus, the aim of the present retrospective study was to determine the pattern of dysphagia in childhood including its aetiology, manifestations, age and sex distribution and complications.

Patients and Methods

All the children, aged between one month and 14 years, admitted into the University of Calabar Teaching Hospital (UCTH) with the main complaint of difficulty in swallowing, over a period five-and-a-half years (January 1987 to June 1992), were included in the study. Infor-

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mation obtained from the parents or guardians, or from older patients themselves, included age, sex, onset and duration of dysphagia, type of dysphagia (solid or fluid or both) and history of ingestion of foreign body or corrosive substance prior to the onset of the symptom. On physical examination, the state of hydration and nutrition was noted; the throat was inspected for foreign bodies or tumor by the otorhinolaryngologist (VOI). Investigations carried out included plain radiograph of the neck, chest and abdomen, gastro-graffin swallow, serum electrolytes and urea, haemogram and oesophagoscopy, where indicated.

Management of each patient was carried out by a combined team, consisting of the otorhinolaryngologist (VOI), a paediatric surgeon (AEA) and a paediatrician (AAA). Fluid, electrolytes and nutritional deficiencies were corrected before any surgery was undertaken. At operation, oesophagoscopy for a biopsy, or disimpaction of a foreign body, or incision and drainage of an abscess, or oesophago-gastric myotomy, as performed elsewhere,^{5,6} was carried out, as and when indicated. Infected cases were treated with appropriate antibiotics.

Results

During the five-and-half-year period, 55 children, aged between six months and 12 years (mean age, 4.3 years), with the complaint of dysphagia were studied. There were 35 males and 20 females, a M/F ratio of 1.7:1. Table I lists the age distribution and causes of the dysphagia in the series and as can be seen, children in the age group, one to five years and six to 10 years, were mostly involved, the respective numbers being 25 (45.5 percent) and 17 (31.0 percent) of the cases. Foreign body impaction in the oesophagus was the commonest

cause, being found in 22 (40.0 percent) of the 55 cases. The types of foreign bodies are shown in Table II; coins were the commonest, occurring in seven (31.8 percent) of the 22 cases; this was followed by food items (meat, fish bones etc) in six (27.3 percent), bottle crown in five (22.7 percent) and toys in three (13.6 percent).

TABLE I
Causes of Dysphagia and Age Distribution in 55 Patients

Cause	Age (years)				Total
	1	1-5	6-10	11-15	
Foreign body	6	12	4	-	22(40.0)
Idiopathic	2	6	4	2	14(25.5)
Oesophageal stricture	-	2	5	1	8(14.5)
Achalasia	-	2	3	1	6(11.0)
Pharyngotonsillar infection	1	3	1	-	5(9.0)
Total	9	25	17	4	55(100.0)

Numbers in parentheses represent percent of total

All the patients with foreign body impaction presented at the hospital within six to 24 hours of the accident. Before hospitalization, parents had tried unsuccessfully to dislodge the foreign body. In this group of patients, hypersalivation was a constant accompanying manifestation. Figure I illustrates the site of a foreign body-impaction which, in all the cases, was at the upper end of the oesophagus. There were 14 (25.5 percent) of the 55 patients, in whom the cause of the dysphagia was unknown (idiopathic). These patients were aged, between four and seven years; they presented with intermittent dysphagia, regurgitation of feeds and slow



Fig 1

Plain radiograph of the chest and abdomen of a 3-year old child. Note the one naira coin that is impacted in the upper part of the oesophagus.

feeding. Treatment of this group of patients consisted of oesophagoscopy, a procedure that brought about relief of the symptoms in 12 (85.7 percent) of the 14 patients during a follow-up period of two years; the two remaining patients underwent the procedure more than once because of the frequent relapse of the symptoms.

TABLE-II

Types of Foreign Bodies in 22 Cases of Dysphagia

Type	No of Cases	Percent of Total
Coin	7	31.8
Food item (meat, fish-bone)	6	27.3
Bottle crown	5	22.7
Toys	3	13.6
Office pin	1	4.6
Total	22	100.0

There were eight (14.5 percent) patients, age between six and eight years, who had oesophageal stricture caused by accidental ingestion of caustic soda (sodium hydroxide) that was stored at home by the parents for the manufacturing of soap. Figure 2 is an illustration of an oesophageal stricture which, in all the cases, involved the middle third of the oesophagus. As there were no facilities in our hospital to carry out definitive surgery on any of these patients, they were referred to the University of Nigeria Teaching Hospital, Enugu and the outcome in these cases has remained unknown to us. Six patients (11.0 percent) in the age group, five to 10 years, had achalasia as shown in Figure 3. In addition to dysphagia, these patients presented with voracious appetite, recurrent regurgitation, weight loss, or overt malnutrition. After correction of the nutritional deficiency, each of the six patients underwent Heller's oesophagomy-



Fig 2

A gastrographin swallow showing a stricture of the middle third of the oesophagus.

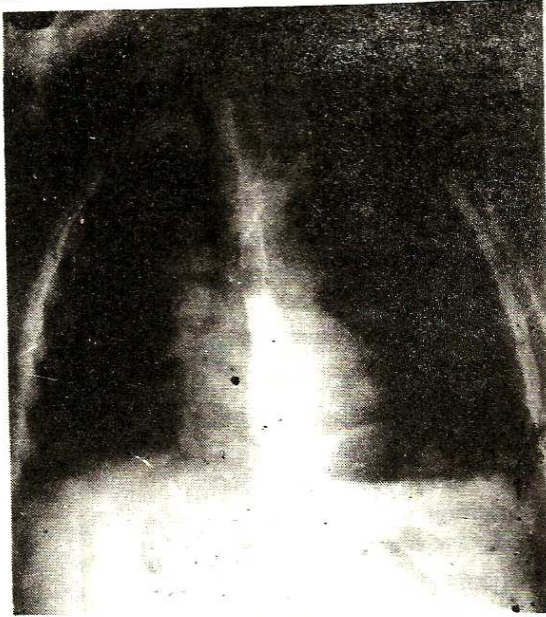


Fig 3

A gastrographin swallow in a 5-year old child with achalasia showing the tapering at the lower end of the oesophagus with a proximal dilatation.

otomy.^{5,6} These patients were followed up for up to four years and during this period, the post-operative condition remained satisfactory. Pharyngotonsillar infection accounted for five (9.0 percent) of the 55 patients; the peak age incidence was three to four years. All the five developed sore throat, dysphagia and hypersalivation about two or three days after the tonsils had been "removed" by traditional healers.

In this small series, malnutrition and aspiration pneumonia were the most common and major complications. On admission, 31 (56.4 percent) of the 55 patients were underweight, or overtly malnourished and marasmus was the commonest type of malnutrition that complicated those cases with idiopathic dysphagia, oesophageal stricture and achalasia. There were 15 (27.3 percent) cases of aspiration complicating those with achalasia (seven cases), stricture (five cases) and idiopathic dysphagia (three cases).

Discussion

The present study has clearly demonstrated that the commonest causes of dysphagia in the series, in descending order of frequency, were foreign body impaction, stricture and achalasia of the oesophagus. A majority of the patients affected by these three conditions were aged between one and ten years. Foreign bodies, comprising coins, food items and bottle crowns were the commonest in the series. Oesophageal stricture caused mostly by caustic soda appeared to be related to poverty and ignorance in the families concerned. In our community, families who undertake soap-making at home for commercial purpose, are usually those in the low income group. Living-rooms in the homes of these families are indeed, converted into storage rooms for the materials for soap-making and such materials include caustic soda in liquid form. Young children in such environment thus have easy access to this corrosive substance which they may accidentally drink. It is clear that preventive measures against this problem should include improvement in the socio-economic status of the society, provision of better housing, creation of employment opportunities and eradication of illiteracy.

Achalasia of the cardia occurs mostly in adults, but recently, it has been reported in childhood.⁷ However, the rarity of this condition has been confirmed in the present study, as only 11.0 percent were found in the series. Pharyngotonsillar infection causes dysphagia due to associated pain in the throat. Despite this pain, some children can feed well. In the present series, throat infection was secondary to the traditional "tonsillectomy" practices that are widely carried out by traditional healers.

Cases termed idiopathic in the present series, concerned 14 children (25.5 percent), mostly in the age groups six to ten years, who

had intermittent difficulty in gulping their food; they fed slowly or else, they regurgitated the food. These patients most probably had problems of incoordination of the upper oesophageal sphincter, a condition which could have been confirmed by manometric studies,^{8,9} if the facilities for such studies were available in our institution. In most cases, the upper oesophageal sphincter incoordination is of neuropathic or myopathic origin^{10,11} and some patients with this condition may outgrow the difficulty with time.^{12,13} Thus, gastrostomy may be performed so as to allow the patient sufficient time for maturation of the swallowing function. As shown earlier, oesophagoscopy alone was performed on our patients with satisfactory relief of the symptoms in 86 percent of the cases.

It is concluded that, besides the idiopathic and achalasia cases, in a majority of the patients, the causes are preventable through better parental child-care, health education to parents, good housing and employment opportunities for parents.

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References

- 1 Stringer MD and Capps SNJ. Rationalizing the management of swallowed coins in children. *BMJ* 1991; **302**: 1321-2.
- 2 Boothroyd AE, Carthy HML and Robson WH. "Hunt the thimble" study of radiology of ingested foreign body. *Arch Emerg Med* 1987; **4**: 33-8.
- 3 Nahman BJ* and Mueller CF. Asymptomatic oesophageal perforation by a coin in a child. *Ann Emerg Med* 1984; **13**: 627-9.
- 4 Cooke MW and Glucksman EE. Swallowed coins. (letter) *BMJ* 1991; **302**: 1607.
- 5 Peyton MD, Greenfield LJ and Elkin RC. Combined myotomy and hiatal herniorrhaphy: A new approach to achalasia. *Am J Surg* 1974;

- 128: 786-8.
- 6 Tachorsky TJ, Lynn HB and Ellis RH Jr. The surgical approach to oesophageal achalasia in children. *J Pediatr Surg* 1968; **39**: 226-9.
- 7 Tuck JS, Bisset RAL and Doig CH. Achalasia of the cardia in childhood and the syndrome of achalasia, alacrima and ACTH insensitivity. *Clin Radiol* 1991; **44**: 260-4.
- 8 Chen YM, Ott DJ and Hewson EG. Diffuse oesophageal spasm: Radiographic and manometric correlation. *Radiology* 1989; **170**: 807-10.
- 9 Meshkinpour H, Glick ME, Sanchez P and Tervin J. Esophageal manometry a benefit and cost analysis. *Dig Dis Sci* 1982; **27**: 772-5.
- 10 Hanrahan TO, Bancewicz J, Thompson D, Marples M and Williams D. Oesophageal reflex responses abnormalities of the enteric nervous system in patients with oesophageal symptoms. *Br J Surg* 1992; **79**: 938-41.
- 11 Bancewicz J, Osugi H and Marples M. Clinical implications of abnormal oesophageal motility. *Br J Surg* 1987; **74**: 416-9.
- 12 Standley EF, Painter M and Milmoie G. Swallowing disorders in infancy. *Pediatr Clin N Am* 1981; **28**: 845-53.
- 13 Reichert TJ, Bluestone CD and Stool SE. Congenital cricopharyngeal achalasia: *Otol Rhinol Laryngol* 1977; **86**: 603-10.