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Research Article

Accidental ingestion of hairpins in adolescent Muslim girls while doing or undoing the headscarf

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ABSTRACT

Background: Recently there has been an increase in trends of aspiration and ingestion of sharp foreign body (pins) due to headscarf particularly in Muslim girls who have the habit of holding the pin between their lips or teeth, to get a free hand while doing or undoing their headscarf. The beaded end of the pin, is heavier than the rest of the pin and therefore the pin usually falls with beaded end pointing downwards. The objective of this study was to perform an epidemiological assessment of metallic hairpin ingestion in young Muslim females and stress on the need for a health education program in this population.
Methods: This prospective study was done in the department of general Surgery in Government Medical College Srinagar over a period of one year from May 2014 to May 2015 and included all patients who presented with accidental ingestion of foreign bodies. Particular emphasis was given on accidental ingestion of headscarf pins in young adolescent Muslim females.
Results: A total of 123 patients reported with foreign body ingestion, of which 75 (60.97%) had accidently ingested headscarf pins. Females outnumbered males comprising 83.74% of all patients who have ingested foreign bodies. Most of patients were in age group of 6-15 years. Hairpin ingestion was exclusively seen in females, comprising 75 (60.97%) of all patients who reported the department with ingestion of foreign bodies. 65 (86.67%) patients among hairpin ingestion group, were young adolescent females 11-20 years of age. All patients were admitted and Serial chest and abdominal X rays were taken. In 36 (48%) patients pin was successfully retrieved via Upper Gastrointestinal Tract Endoscopy. In 39 (52%) females, Upper Gastrointestinal Tract Endoscopic retrieval of the pin was not successful and patients were managed conservatively. 2 (2.66%) patients developed signs of peritonitis and emergency Laprotomy was done. There was one death (1.33%) in the study.
Conclusion: The significant number of accidental ingestion metallic hairpins in young Muslim females highlights the need for a health education program in this population. Early upper gastrointestinal endoscopy remains the primary tool for retrieval of these foreign bodies.

Keywords: Foreign body, Hair pin, Upper gastrointestina tract, Endoscopy

INTRODUCTION

Ingestion of Foreign bodies and impaction of food boluses in gastrointestinal tract occur commonly. Majority of foreign body ingestion occurs in paediatric population with a peak incidence between ages of 6 months and 6 years. In adults, foreign body ingestion occurs more commonly in those with psychiatric disorders, developmental delay, alcohol intoxication and in incarcerated individuals seeking gains via release to a medical facility.[1] According to the available data, frequencies of swallowed foreign bodies vary widely. The foreign bodies most commonly swallowed by adults are: Fish bones (9–45%), Bones (8–40%) and Dentures (4–18%).[2,3] Most foreign bodies pass uneventfully, but serious complications such as bowel perforation and

obstruction can occur. The risk of complications is increased with long sharp metal objects and animal bones, and may be higher in patients with adhesions due to prior abdominal surgery.[4] Pre-existing intestinal disease such as Crohn's or intestinal stenosis may predispose to complications. 90% of ingested foreign bodies can pass through the gastrointestinal tract without complications, 10-20% necessitate endoscopic removal whereas only 1% of them finally requires surgical intervention.[5] Recently there has been an increase in trends of aspiration and ingestion of sharp foreign body (pins) due to headscarf particularly in Muslim girls who have the habit of holding the pin between their lips or teeth, to get a free hand while doing or undoing their headscarf.[2] These pins have a long slim body and a round coloured plastic bead at one end. The beaded end is heavier than the rest of the pin and therefore the pin usually falls with beaded end pointing downwards.[3]

The aim of this study is to create awareness regarding the increased incidences of metallic hairpin ingestion in Muslim females, which can be avoided by community education and awareness.

METHODS

This prospective study was done in the department of general Surgery in Government Medical College Srinagar over a period of one year from May 2014 to May 2015 and included all patients who presented with accidental ingestion of foreign bodies. Demographic details noted include, age, place of residence and socio economic status. All patients with history of ingestion of hairpins were subjected to detailed history and thorough clinical examination, followed by X rays of neck, chest and abdomen. Computerised tomography was done in all cases with persistent abdominal pain, patients with no signs of foreign body progression and in cases of complications if they were haemodynamically stable. Patients with foreign bodies in tracheobroncheal tree were sent to ENT department and those with foreign bodies in gastrointestinal tract were admitted in the surgical ward and underwent all baseline investigations including complete blood count (CBC), kidney function tests, serum electrolytes and ECG.

If on X ray foreign bodies was present in upper abdomen, immediate Upper Gastrointestinal Endoscopy was attempted. Those cases where foreign bodies was not in upper abdomen or those in which Upper Gastrointestinal Endoscopy proved unsuccessful conservative management in the form of wait and watch policy was done. Patients and guardians were made aware of all the possible complications and consent for a possible laparotomy was taken in all these cases who were managed conservatively. Daily radiographs and examination of stools was done to monitor the progress. If there was gastrointestinal hemorrhage or sign of bowel perforation immediate surgical exploration and removal of the object was done. Those with foreign bodies removed via Upper Gastrointestinal Endoscopy were discharged after keeping them under observation for one day and after they tolerate oral feeds. Patients who needed surgery were discharged after tolerating orals. Follow up was advised after 2 weeks.

RESULTS

A total of 123 patients were admitted with us with a diagnosis of foreign body ingestion. Age ranged from 2 years to 21 years with mean age being 14 years. Out of the 90 females admitted 75 females had accidental ingestion of hairpin.

Table 1: Age wise distribution of foreign body ingestion.

Age Group	Male number (%)	Female number(%)	Total
0-5	12 (9.75%)	0 (0%)	12
6-10	07 (5.69%)	26 (21.13%)	33
11-15	01 (0.81%)	56 (45.53%)	57
>15	0 (0%)	21(17.07%)	21
Total	20 (16.26%)	103 (83.74%)	123

Table 2: Age wise distribution of scarf pin ingestion in females.

Age Group	Number of Patients (percentage)
5 – 10	03 (4%)
11- 15	22 (29.33%)
16-20	43 (57.34%)
>20	07 (9.33%)
Total	75 (100%)

87 (70.73%) patients presented to casualty within 2 hours while110 (89.43%) of the patients presented within 12 hours. Late presentation occurred in 12 (9.75%) of patients who reported to casualty after 12 hours of foreign body ingestion.

Table 3: Objects of foreign body ingestion.

Type of Foreign Body	Females number (%)	Males number(%)
Coin	19 (15.44%)	12 (9.75%)
Scarf Pin	75 (60.97%)	0 (0%)
Bone	05 (4.06)	02 (1.63%)
Others	04 (3.25%)	06 (4.88%)
Total	103 (83.74%)	20 (16.26%)

All patients presented to us with complaints of accidental ingestion of foreign body. There were no significant clinical findings in any of the patient. All patients were admitted and Serial chest and abdominal X rays were taken and patients where hairpin was in upper abdomen were subjected to immediate Upper Gastrointestinal Tract Endoscopy in order to retrieve the pin. In 7 patients with

persistent pain and 2 with signs of peritonitis were subjected to computerised tomography abdomen to locate the pin. In 2 patients hairpin had penetrated the bowel wall and there was free fluid in peritoneal cavity. In these two patients immediate laparotomy was done and foreign body was retrieved from peritoneal cavity.

In 36 patients pin was successfully retrieved via Upper Gastrointestinal Tract Endoscopy. In 39 females, Upper Gastrointestinal Tract Endoscopic retrieval of the pin was not successful and patients were managed conservatively. 2 of the patients developed signs of peritonitis and emergency Laprotomy was done. There was one death in the study.

Table 4: Method of retrieval in cases of hairpin ingestion.

Modalities	Number of Patients (percentage)
Upper GI Endoscopy	36 (48%)
Conservative Management	37 (49.33%)
Laprotomy	02 (2.67%)
Deaths	01 (1.33%)
Total	75

DISCUSSION

Foreign body ingestion is a common problem in the pediatric population, especially in infants, due to their natural tendency to place objects in their mouths because of their oral orientation. The type of foreign body and its clinical presentation may vary in different ages and cultures. In our state scarfpin (Turban pin) ingestion was common among adolescent girls. "Turban pin aspiration" syndrome was defined in a case by Ucan et al.[6] and in adolescent girls by Kaptanoglu et al.[7] In our study, females outnumbered males comprising 83.74% of all patients who have ingested foreign bodies. Most of patients were in age group of 6-15 years. Hairpin ingestion was exclusively seen in females, comprising 75 (60.97%) of all patients who reported the department with ingestion of foreign bodies. 65 (86.67%) patients among hairpin ingestion group, were young adolescent females 11-20 years of age. This increased trend seen has been attributed to culture of wearing headscarf and carelessness in young adolescent females. Muslim adolescent girls while wearing a scarf keep both hands busy with wrapping the turban around the head, and four or five pins held between the teeth are attached to the turban sequentially. The pins can easily be ingested while talking, deep breathing or coughing during these maneuvers. Objects with sharp edges or points such as pins, needles, razor blades, open safety pins present special problem because of high incidence of intestinal perforation.[8] Approximately 20 to 25% of the foreign bodies are usually located in the stomach at initial examination. Immediate endoscopic intervention is only recommended in sharp foreign body or battery ingestions for foreign bodies in the stomach. The "wait and observe" attitude is recommended in other conditions.[9] In our study among hairpin group upper gastrointestinal endoscopy was done in 36 (48%) patients and in all patients foreign body (hairpin) was retrieved and in 39 (52%) patients hairpin had crossed duodenum and conservative management was done. Endoscopy was successful in all 36 patients which was attributed to early presentation of patients and round the clock availability of endoscopist. Hairpin ingestion was described as a different entity from other foreign body aspirations because of gender and age difference.

Rapid diagnosis and treatment of ingested foreign bodies is important because they may sometimes cause serious complications such as mucosal erosion, bowel obstruction and bowel perforation.[10] Even though a large number of them will also pass through the gastrointestinal tract once past the gastroesophageal junction; nevertheless it is preferable to observe them in the hospital for possible need for immediate abdominal exploration should bleeding or features of perforation occurs.[11] Two patients among hairpin group who were put on conservative treatment because of late presentation developed signs of peritonitis and computerized tomography scan abdomen showed pin outside intestines and free fluid in peritoneal cavity, were operated by midline abdominal incision. Hairpin in both these cases was retrieved and peritoneal cavity containing bowel content mixed with reactionary fluid was thoroughy washed. In one patient bowel perforation was located which was closed by interrupted single layer 20 polygalactin sutures while in another one no perforation could be located. Peritoneal cavity was drained by tube drains in both the cases. Both these two patients were put on oral on 5th day and discharged on 7th day. One of the patient, 18 years old adolescent female in hairpin group, refused admission and was brought hospital next day in a state of shock with massive gastrointestinal bleeding. Patient could not resuscitated and died one hour after reporting the hospital. Postmortem examination was not allowed.

CONCLUSION

There is a frequent use of headscarf pins in Muslim females especially adolescent girls due to their cultural or religious reasons posing an increased risk of accidental ingestion of these pins. Patients who report early should undergo Upper Gastrointestinal Endoscopy for possible retrieval. However in cases of late presentation where hairpin had crossed the duodenum and in cases of unsuccessful retrieval, patients should be kept under observation and managed conservatively for pin to pass with faecal matter. Outcomes of such event increases morbidity and sometimes prove fatal. Such incidences can be reduced by cultural awareness and health education especially in this group of female. It should

always be remembered that precaution is better than cure and community health education is the best method to prevent such incidences.

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