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A Foreign Body in the Esophagus in a One-year-old Child (an Open Safety Pin)

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ABSTRACT The authors report a case of practice: a foreign body (an open safety pin) in the esophagus of a one-year-old child. This case highlights the risk of accidental swallowing a safety pin, which can lead to serious complications.

Keywords: safety pin, esophagus, rigid esophagoscopy

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Foreign bodies of the esophagus in children are quite common [1].

Such foreign bodies as safety pins in the esophagus are rarely found in children [1, 2]. Literature data from developed countries show that the incidence of a safety pin in the esophagus in children has decreased dramatically after the appearance of disposable diapers [1-3]. At the same time, a pin may penetrate the esophagus wall with a sharp end, which can lead to serious complications as esophageal perforation and, as a result, various kinds of purulent complications and bleeding.

Here is the observation of the successful removal of an open English pin from the esophagus in a one-year-old child.

A patient R., 1 year and 2 months, from the city of Protvino, Moscow region, was in the ENT clinic of M.F. Vladimirsky Moscow Regional Research Clinical Institute from Jan 31, 2018 to Feb 2, 2018 with the diagnosis: «The foreign body of the esophagus (a safety pin)».

From the anamnesis, it is known that on January 31, 18, at about 9 p.m., the child swallowed an open safety pin right in front of the mother. Immediately after this, the child coughed, and there was no respiratory arrest. There was a single vomiting of food eaten, no pins in the vomit were detected. The child was taken by ambulance to the emergency department of the Central Regional Hospital of Protvino. A survey radiography of the chest organs was performed, a metal shadow of a foreign body was revealed in the projection of the upper third of the esophagus (Fig. 1). On an emergency basis, the child was transferred to the ENT Department of the M.F. Vladimirsky Moscow Regional Research Clinical Institute.

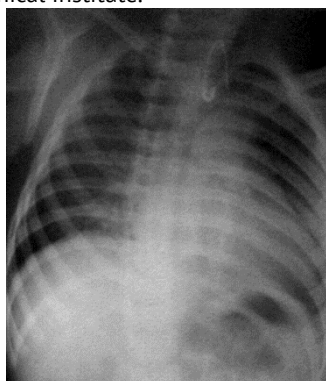


Fig. 1. The plan radiography of the chest. The metallic shadow of a foreign body is determined in the projection of the esophageal upper third

On admission: body temperature 36.9 °C. The skin is clean, pale pink. Periodic cough is noted. Thorax symmetrically involved in the act of breathing. The child is active, responds calmly to the inspection. Auscultation: puerile breathing. Respiratory rate 26 breaths per minute. Clear, rhythmic heart sounds. Heart rate 100 beats per minute. Soft tissue of the neck is not altered, painless upon palpation.

A repeated X-ray examination was performed: a plan radiography of the chest organs in two projections, lateral radiography of the neck according to Zemtsov, X-ray of the esophagus with water-soluble contrast: at the level of Th2-Th4 in the projection of the esophagus a foreign body is defined – an open metal safety pin in the form of a letter V with the length of the parts 2 cm, located in the frontal plane with sharp ends downward (Fig. 2).

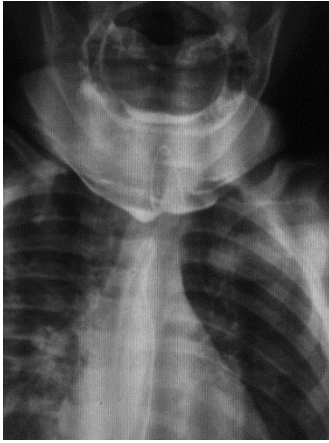


Fig. 2. The X-ray image of the esophagus with a water-soluble contrast. At the Th2-Th4 level, a foreign body is defined in the projection of the esophagus – an open metal safety pin

The child was examined by a pediatrician. Blood and urine tests: no abnormalities. Clinical diagnosis: "Foreign body of the upper third of the esophagus (an open safety pin)".

On Jan 31, 2018 under general anesthesia, a rigid esophagoscopy was performed using an esophagoscope from the Karl Storz No. 3 kit. When viewed at a distance of 18 cm from the upper incisors, a foreign body was found in the esophagus lumen in the form of an open safety pin. The head of the pin lock was located in the lumen of the esophagus, the continuing part of the head of the lock was located vertically on the right lateral wall, the other part with a sharp end was located transversely to the axis and the sharp end is embedded in the left side wall of the esophagus. The sharp end of the pin is removed from the esophagus wall with the help of crocodile forceps. Using forceps, the pin was inserted into the tube of the esophagoscope and removed through it entirely (Fig. 3). There were no complications during the surgery.



Fig. 3. The open safety pin, removed from the esophagus of a one-year-old child

On the control radiography of the esophagus with a water-soluble contrast 2 hours after surgery: the prevertebral soft tissues are not dilated, the patency of the esophagus is preserved throughout its length, the contours are even and clear. No leaks of the contrast. (Fig. 4).



Fig. 4. The X-ray image of the esophagus with a water-soluble contrast after the operation. The esophagus is patent throughout its length, the outlines are even and clear. There are no leakages of contrast outside of the esophagus

In the postoperative period, the child received symptomatic therapy.

On the day 2 after the operation, the child in satisfactory condition was discharged from the hospital under outpatient supervision of an ENT doctor during a week at the place of residence. At discharge, the body temperature was within the normal range, breathing was free, heard in all parts of the lungs upon auscultation, no wheezing, the nutrition was satisfactory.

A feature of the presented clinical observation is the presence in the esophagus of an unusual foreign body of a sufficiently large size, the open safety pin in a one-year-old child. Despite the child's age, large size and a certain shape of a foreign body with a sharp end, it was possible to remove it with the help of a rigid esophagoscope, avoiding complications.

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