

# Hemopericardium Caused by Ingested Safety Pin

# UCTN

The ingestion of an open safety pin may have significant consequences especially with regard to the cardiovascular system [1–4]. Only one instance is reported in the literature of cardiac tamponade following ingestion of a safety pin; the cause of death was determined at autopsy [5]. Therefore we report here the case of an infant with hemopericardium caused by swallowing an open safety pin. The pin was removed using a gastrointestinal fiberoptic, after drainage of pericardial fluid.

A 9-month-old boy was referred to our hospital with a history of diarrhea and cough for 3 days. A plain chest radiograph showed cardiomegaly and an open safety pin at the lower level of the esophagus, pointing upwards (Figure 1). His parents could provide no information about how the foreign body had been ingested. Echocardiography showed that the safety pin penetrated to the right atrium, and pericardial fluid was detected (Figure 2). The

pericardial fluid collection was 10.7 mm in width. Under general anesthesia, a pericardial tube was placed, and a total of 100 ml of pericardial fluid with nonclotted blood was drained, and the flexible pediatric gastrointestinal fiberoptic (GIF XP20; Olympus, Hamburg, Germany) was applied. Thus, the sharp point of the safety pin, which penetrated the lower esophageal wall, was seen. The open safety pin, with the spring end oriented distally, was carefully pushed into the stomach, turned, grasped securely with the spring end oriented proximally, and removed using grasping forceps. No bleeding was found on the surface of esophagus on control examination by gastrointestinal fiberoptic. The pericardial hemorrhagic fluid was drained for 3 days after the endoscopic intervention. On the sixth day after hospitalization, the pericardial tube was removed and on the seventh day the patient was discharged. Follow-up examination and chest roentgenogram findings were normal at 15 days and at 1, 3 and 6 months after discharge.

Foreign body ingestion by children is commonly seen, but ingestion of a safety pin and its cardiovascular complications is uncommon. Cardiac tamponade has been determined in only one patient, at autopsy [5]. We believe that our patient is the first case of hemopericardium after ingestion of a safety pin, with successful removal of the pin by fiberoptic.

A foreign body lodged at the esophago-gastric junction is important because of the proximity of the esophagus and the heart. Consequently, cardiac complications may occur [3,4]. On the other hand, perforation of the esophageal wall and cardiovascular complications could occur during the removal of a safety pin with the sharp tip pointing upwards. In our patient there was a risk of cardiac tamponade due to increase in pericardial effusion; therefore, first of all, drainage was carried out by placing a pericardial tube.

During childhood, ingestion of an open safety pin may result in life-threatening consequences such as cardiovascular complications. The removal of foreign ob-

jects in children demands that a physician should have experience in endoscopy and should work with the use of anesthesia.

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**Figure 1** The grasping forceps and the open safety pin



**Figure 2** Echocardiograph showing the pericardial fluid and the safety pin penetrating the right atrium (E, esophagus; A, atrium; PF, pericardial fluid)