

## Accidental Penetration of Sewing Needle into the Heart of a Child: A Case Report

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### Abstract

A Six years old girl presenting with a penetrating heart injury caused by a sewing needle, this was removed successfully with no complications

**Keywords:** \*Sewing needle, \*Injury Heart.

### Case

A six years old girl, living in a rural part of Sudan, suffered an accidental penetrating wound to the chest, caused by a sewing needle inserted during a collision with her nine years old sister; her sister was holding sewing needle in her hand, while there were playing, they accidentally collided and the needle penetrated the chest wall.

There was no protruding part of the needle. She was taken to the nearest district unit, they tried to removed unsuccessfully, then she was transferred to the regional hospital, she had a Chest X ray (Image 1 & 2), which showed the needle to be embedded within the heart. She was referred to the cardiothoracic unit in Khartoum.

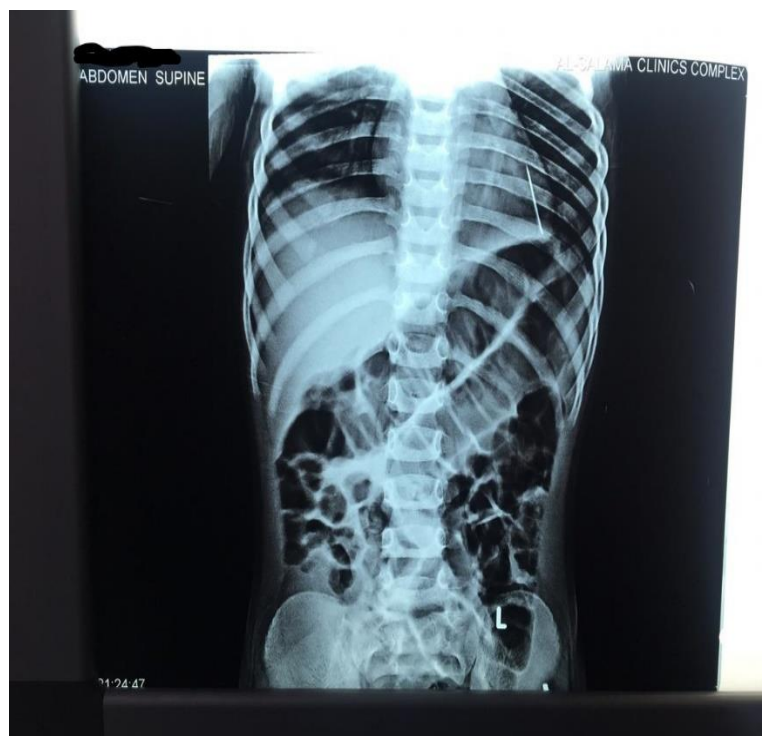


Image 1



**Image 2**

She arrived into the cardiothoracic unit 13 days after the incident, on examination she looked well, normal vitals including temperature, pulse and Blood pressure. On auscultation the heart sounds were normal, not muffled and there was no murmur.

Echocardiography showed the needle to be embedded within the myocardium with small part protruding into the LV cavity about one millimetres and small protrusion into the pericardial space, there was a small rim of pericardial effusion, which did not look haemorrhagic (Image 3).



**Image 3**

At day 15 after the accident she underwent removal of the needle from the myocardium, there is a small protruding part in the pericardium, this part was pulled slowly with a haemosat, and there was no bleeding and the procedure was uncomplicated the procedure was done with median sternotomy approach because there was small rim of pericardial fluid on the echocardiography suggesting the possibility of intra-cardiac injury which may need cardiac

suturing, the procedure was done with a beating heart off pump.

### **Discussion**

Intra-cardiac sharp injuries could cause Tamponade, infection and valvular dysfunction and arterial embolism [1]. The penetration of foreign bodies in the heart is an unusual form of cardiac trauma and is found in 5% to 10% of such injuries. In the majority of cases, the causative agents

are low- and high-velocity missiles, fragments from mortars, grenades etc., frequently appearing in battle casualties during war periods. The offending factor is rarely a sewing needle [2]. Wounds of the heart by needles are not common, but there are serious injuries [2,3].

## Conclusion

Determination of the exact location of the foreign body is of utmost importance to the surgeon. complications attributable to the foreign body may demand immediate surgical intervention. In general, delay in the timing of the operation should be avoided because the foreign body might migrate further from the pericardium to the myocardium and cardiac cavities. The fate of foreign bodies in the heart is unpredictable but the incidence of complications is high, so a delay can be hazardous. The surgical approach depends on the location of the foreign body: the median sternotomy

being the most frequently employed. With the advent and refinement of the techniques of cardiopulmonary bypass and myocardial preservation this approach renders the removal of even small fragments a straight forward procedure[2].

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