Penetrating Chest Injury with Retained Projectile. Is Removal mandatory?

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Introduction

Retained cardiac missiles usually result from direct penetration to pericardium or embolization after injury through peripheral or pulmonary vessels which require extensive resuscitation including surgery. We present two cases of retained cardiac missile with two different management.

Case reports

First case, a 37-year-old man foreign worker presented to emergency department complaining of chest pain following pieces of hot steel rod missiles into his left chest. Upon clinical examination, patient was able to saturate under room air with heart rate of 60 beats per minute and blood pressure of 119/72 mmHg. Contrast-enhanced Computed Tomography(CECT) and Computed Tomography Angiography(CTA) were done revealed metallic foreign body at anterobasal left hemithorax. Patient was admitted and treated conservatively. He was discharge well and went back to his homeland with living memo of metal in his body.

Approximately 1 hour after the arrival of first patient, a 36-year-old man foreign worker presented with industrial injury in which nail gun accidently missile into the left chest. On assessment, he was hypotensive with bradycardia and subsequently developed cardiac tamponade requiring pericardiocentesis. He then undergone subxiphoid pericardial diagnostic scope and proceeded with sternotomy. The foreign body was removed and primary repair of right ventricle puncture wound was performed. He was monitored in ward and discharge at day 14 post trauma with no further complication.

Discussion

Penetrating cardiac trauma shows high mortality of about 70 to 80 percent compared to other trauma. To date there is no established guideline regarding management of penetrating cardiac missile, but most study described immediate surgery and removal of foreign body once it involves the pericardium sac and haemodynamically unstable patient as there is a risk of complication such as tamponade, pericarditis, erosion or abscess formation. Few cases report described successful non-operative management in retain cardiac missile. Symbas et al recommended a missile that is completely embedded in myocardium or pericardium may be left in place while Davis et al reported removal of foreign body after failure of conservative management is not associated with increased mortality or morbidity.

Conclusion

Management of retained cardiac missile should be individualized based on patient clinical condition, however early suspicious and good early resuscitation is crucial in assisting further management by primary team.

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