

A three year old child presents with a ten day history of a flu-like illness and echocardiography demonstrates dilatation and poor function of both ventricles. The possibility of acute myocarditis is raised.

Which of the following is the most likely infective agent?

- A. Cytomegalovirus
- B. Enterovirus
- C. Epstein Barr virus
- D. Mumps
- E. Varicella zoster

Via a sternotomy, you are closing a secundum atrial septal defect in a five year old child. You have cannulated the superior and inferior vena cavae directly and placed caval snares. You cross clamp the aorta and give antegrade cardioplegia which you vent through a small incision in the right atrium. Having completed the cardioplegia, you then open the right atrium further to expose the atrial septal defect. The right atrium continues to fill with blood although the heart is in asystole.

The most likely explanation is:

- A. The aortic cross clamp is not fully across the aorta
- B. The patient has a partial atrioventricular septal defect
- C. The patient has a persistent left superior vena cava
- D. The patient has a sinus venosus atrial septal defect
- E. The patient has Scimitar syndrome

A 36 year old woman returns to ITU after repair of her mitral valve involving a plication of the posterior leaflet and insertion of an annuloplasty ring. Over the next few hours she becomes hypotensive, oliguric and progressively acidotic. She has an echocardiogram which shows a gradient across the left ventricular outflow tract.

Which anatomical structure is most likely to be responsible for the obstruction?

- A. The anterior leaflet of the mitral valve
- B. The interventricular septum
- C. The mitral valve annulus
- D. The non-coronary cusp of the aortic valve
- E. The posterior leaflet of the mitral valve

A 35 year old man presents with dyspnoea and chest pain. The chest radiograph shows a large anterior mediastinal mass and bilateral pleural effusions. A CT scan shows the mass to be of heterogeneous density and contiguous with the left lung.

What would be the most appropriate investigation?

- A. Cervical mediastinoscopy
- B. Median sternotomy and excision
- C. Serum tumour markers
- D. Surgical biopsy by left anterior mediastinotomy
- E. VATS pleural aspiration and fluid cytology

A 45 year old previously fit man gives a seven day history of cough, dyspnoea and purulent sputum and has received antibiotics from his general practitioner. He develops a sudden worsening of dyspnoea and is admitted to a general medical ward via the Emergency Department. Chest X-ray and CT scan show a large multi-loculated pleural effusion.

Which of the following is the most appropriate management?

- A. Bronchoscopy
- B. CT guided drainage
- C. Intrapleural fibrinolytic
- D. Open decortication
- E. VATS thoracoscopy