CLINICAL HISTORY AND INVESTIGATIONS

A 83 year-old lady presented to the emergency department with a two day history of diarrhoea and vomiting which was associated with constant epigastric pain. Before this illness, she had an aortic valve replacement four years ago for aortic stenosis but no other significant past medical history. Her blood tests on admission were normal except for a slightly raised alanine transaminase of 135 IU/L. The initial medical impression was of a viral infective cause. She was treated with fluid resuscitation and monitored in the high dependence unit.

OUTCOME

The following day her condition deteriorated. Repeat blood tests revealed a significant increase in her alanine transaminase, which now was 2421 IU/L. Computer tomography scan of her abdomen demonstrated an extensive Type A aortic dissection with associated infarction on the right lobe of the liver, see Panel A. Unfortunately, the patient was unfit for surgery and died within days.

QUESTIONS, ANSWERS AND DISCUSSION

Question 1: Other than arteriosclerosis and arterial hypertension, what are the causes of an aortic dissection?

Question 2: How are aortic dissections classified?

Question 3: How do aortic dissections usually present?

Question 4: What are the treatment options available?

Answer 1(1):

1. Inherited fibrillinopathies (Anuloaortic ectasia, Marfan syndrome and Ehlers-Danlos syndrome)
2. Hereditary vasculopathies (Aortic isthmus stenosis and Bicuspid aortic valve)
3. Inflammatory vascular diseases (Giant-cell arteriitis, Takayasu arteriitis, Rheumatic aortitis, Systemic lupus erythematosus, Behçet’s disease, Syphilis, Mycotic aortitis and Ormond’s disease, also known as retroperitoneal fibrosis)

4. Iatrogenic (Catheter procedures and Aortic/aortic valve surgery)

Cardiovascular disease is a leading cause of mortality in economically developed countries and acute aortic syndromes are playing an increasing contribution to this (1).

Figures: Panel A
Answer 2:

The Stanford Classification distinguishes aortic dissections into type A and type B, with the former tear being proximal to the left subclavian artery, which is associated with a 48 hour mortality of 50%. The latter, type B, having a tear distal to the left subclavian artery with a 30 day mortality of 10%(2).

Answer 3:

Aortic dissections classically present with stabbing back pain and in addition, type A dissections are associated with syncope and aortic insufficiency murmurs. However, this case highlights the varied presentation of aortic dissections. Urgent cross sectional imaging is warranted in any unwell patient with non-specific symptoms and rapid change in blood test results.

Answer 4(3):

- Type A aortic dissection - Surgical treatment.
- Type B aortic dissection with complication, such as malperfusion – endovascular treatment.
- Type B aortic dissection without complications – pharmaceutical treatment, including adequate analgesia, with target systolic blood pressure of 100 to 120mmHg, achieved with morphine, beta-blockers, vasodilators or ACE inhibitors.

REFERENCES: