

IMAGES IN CARDIOLOGY.....

Fatal cardiac tamponade in a child due to rupture of a mycotic aneurysm

A 3 year old child presented with a three week history of febrile illness associated with pharyngitis and erythema. A throat swab was positive for type A β haemolytic streptococcus. Two dimensional echocardiography revealed pericardial effusion with drainage of a total of 500 ml of blood. The child suddenly developed hypotension and cyanosis, and died despite efforts to resuscitate.

At postmortem examination, we located a massive haemopericardium caused by external rupture of a saccular aneurysm of the ascending aorta (12 mm in diameter) (A, arrowhead), with the entry (boxed area) located 1 cm above the semilunar leaflets of the aortic valve. No infective endocarditis was present.

Histology revealed a laceration in the aortic wall which was caused by neutrophilic infiltrate and abscess formation (B), including Gram positive microorganisms, with destruction of the elastic lamellae and smooth muscle cells of the aortic tunica media (C).

It is likely that the streptococcal infection arose from the vasa vasorum. The gap in the aortic wall constituted the entry into the pseudoaneurysm cavity, the wall of which comprised two layers. The external layer was composed of granulation tissue with neovessel formation, while the internal layer consisted of organising thrombosis with fibrin, platelets, and necrobiotic neutrophils.

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