

## Pathology Page

## Nonbacterial thrombotic endocarditis



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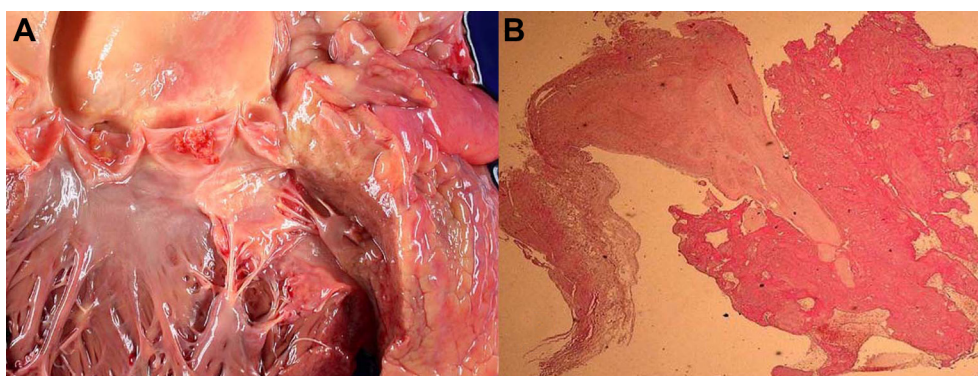
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A 73-year-old woman with diabetes mellitus and hypertension with regular control had sudden onset of left face hemiparesis, general weakness, and loss of ability to speak. She was admitted to our hospital the following day for further examination. Brain magnetic resonance imaging (MRI) showed multiple small T2-hyperintense lesions in the bilateral corona radiata and periventricular white matter, suggesting small vessel ischemic disease. Three days later, she had sudden onset of left body weakness and brain MRI showed a large area of diffusion-weighted imaging-hyperintensity in the right temporal lobe and right splenium of the

corpus, in the territory of the middle cerebral artery, suggestive of an acute infarct. Abdominal computed tomography showed a proximal colon mass with multiple liver metastases. The patient died of sepsis. At autopsy, one vegetation coating the surface of the aortic valve was noted (Fig. 1A). A mucinous mass 4.0 cm in maximum diameter was noted at the cecum, invading her appendix. Distinct areas of encephalomalacia were noted in the brain, including the corpus callosum, right temporal lobe, basal ganglion, and occipital lobe. Histopathology showed a vegetation composed of fibrin and platelets without inflammatory cell infil-



**Fig. 1.** (A) Grossly, one vegetation covers the surface of the aortic valve. (B) Histopathology reveals a vegetation composed of fibrin and platelets (hematoxylin and eosin  $\times 100$ ).

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tration on the aortic valve, diagnostic of nonbacterial thrombotic endocarditis (NBTE; Fig. 1B).

NBTE refers to sterile vegetations on an apparently normal cardiac valve, almost always in association with cancer or some other wasting disease. NBTE affects the mitral and aortic valves with equal frequency.

The cause of NBTE is poorly understood. It is seen commonly as a paraneoplastic condition, usually complicating adenocarcinoma, such as in our patient who presented with colon cancer. The main danger posed by NBTE is embolization to distant organs, clinically manifested as infarcts in these organs, but this is unusual. NBTE is often identified as an incidental finding at autopsy, as in the current case.

#### **Further reading**

- [1] Yeh PS, Lin HJ. Cerebrovascular complications in patients with malignancy: report of three cases and review of the literature. *Acta Neurol Taiwan* 2004;13:34–8.
- [2] Mazokopakis EE, Syros PK, Starakis IK. Nonbacterial thrombotic endocarditis (marantic endocarditis) in cancer patients. *Cardiovasc Hematol Disord Drug Targets* 2010;10:84–6.