

MRI of basilar-artery-aneurysm growth

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A 49-year-old patient presented with sudden onset right hemiparesis and dysarthria. Diffusion-weighted MRI showed acute left-brainstem ischaemia and a small haemorrhage into the vessel wall of an ectatic widened basilar artery (figure). He was discharged on warfarin but failed to present for follow-up assessments.

23 months later he was admitted again with acute-onset dysarthria and right hemiparesis, headache, and unsteadiness. MRI showed that the basilar artery was enlarged and as a result had compressed the pons and midbrain upwards, leading to gross deformation of the

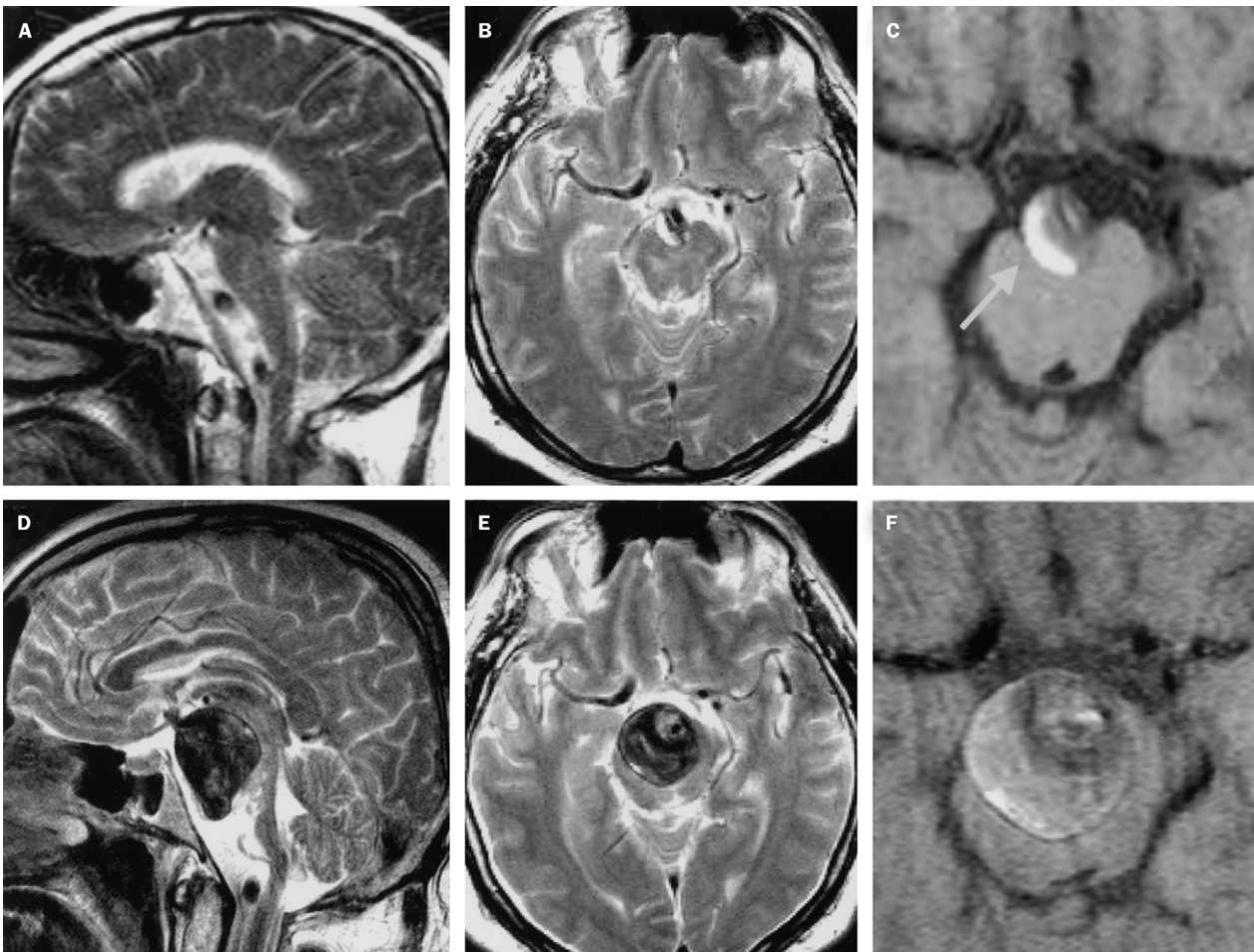
pons and occlusive hydrocephalus. After neurosurgical placement of a ventricular shunt, the patient made a gradual improvement and neurosurgical options for aneurysm surgery were evaluated.

Follow-up MRI after the shunt operation (figure) showed that a giant basilar aneurysm had enlarged from an initial maximum diameter of 0.8 mm to 33 mm. The aneurysm had a residual lumen of normal size and a thrombosed part with a periluminal layered composition of haemorrhages seen as hypointensity on T2-weighted images. Numerous layers of low and intermediate intensity, indicating layered stages of clot, were noted on magnified T1-weighted MRI.

This evidence suggests that over the short follow-up period of 23 months numerous asymptomatic bleeds into the aneurysm occurred, demonstrating the need for careful monitoring of such patients at stages when more therapeutic options are available.

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A–C Diffusion-weighted MRI at initial presentation. Note in C the small haemorrhage into the vessel wall of an ectatic widened basilar artery. D–F show follow up MRI scans after the shunt operation had been done. The basilar aneurysm had increased from 0.8 mm to 33 mm in diameter.