

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

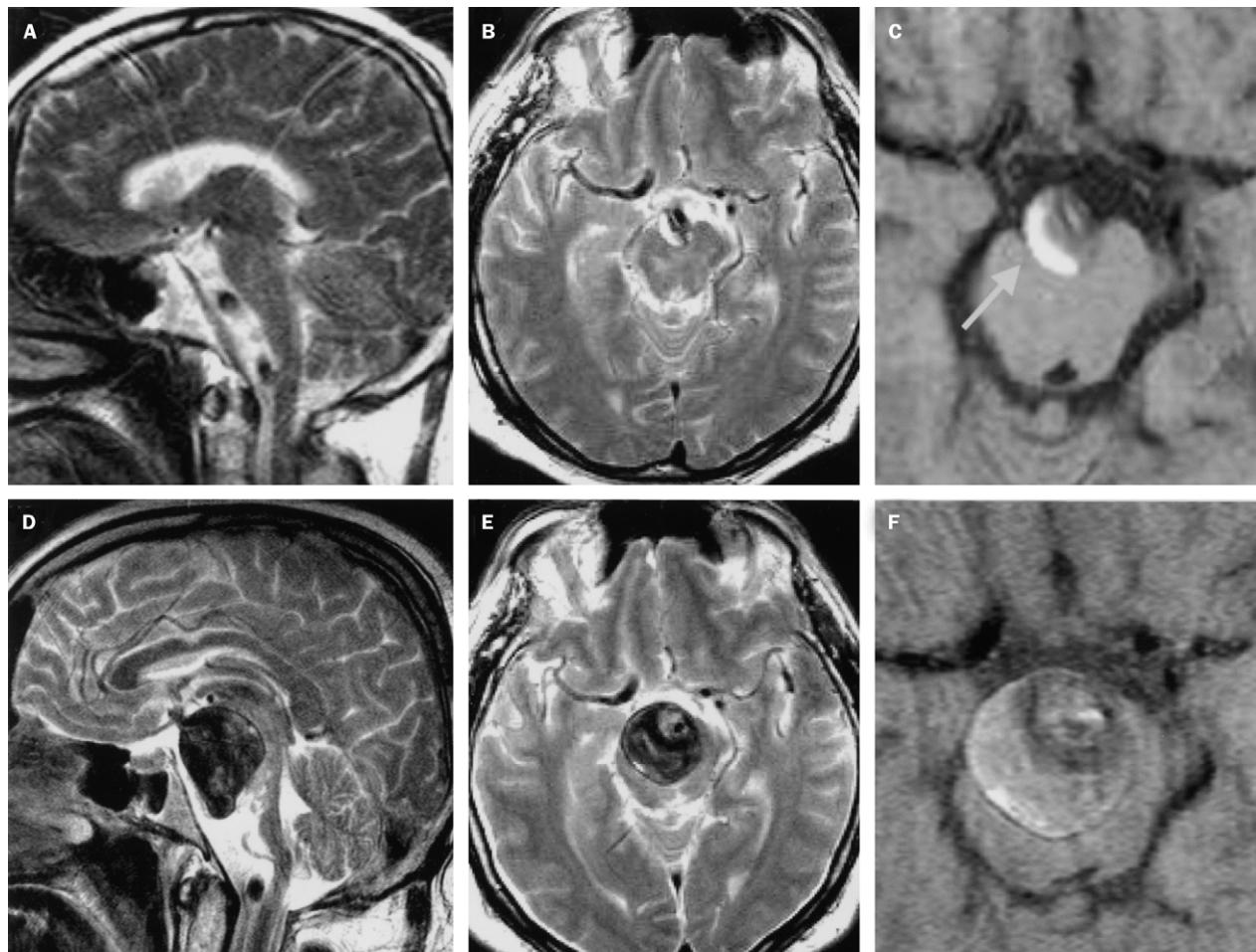
pons and occlusive hydrocephalus. After neurosurgical placement of a ventricular shunt, the patient made a gradual improvement and neurosurgical options for aneurysm surgery were evaluated.

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 periluminar 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.