Unusual and complex vertebrobasilar artery aneurysm

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DESCRIPTION

Vertebrobasilar (VB) fusiform aneurysms are rare and it is uncommon for these aneurysms to present with subarachnoid haemorrhage (SAH).[1] Only 3–4% of aneurysms in the posterior circulation arise at the VB junction.[2] These lesions are extremely challenging to treat and are associated with high morbidity and mortality.

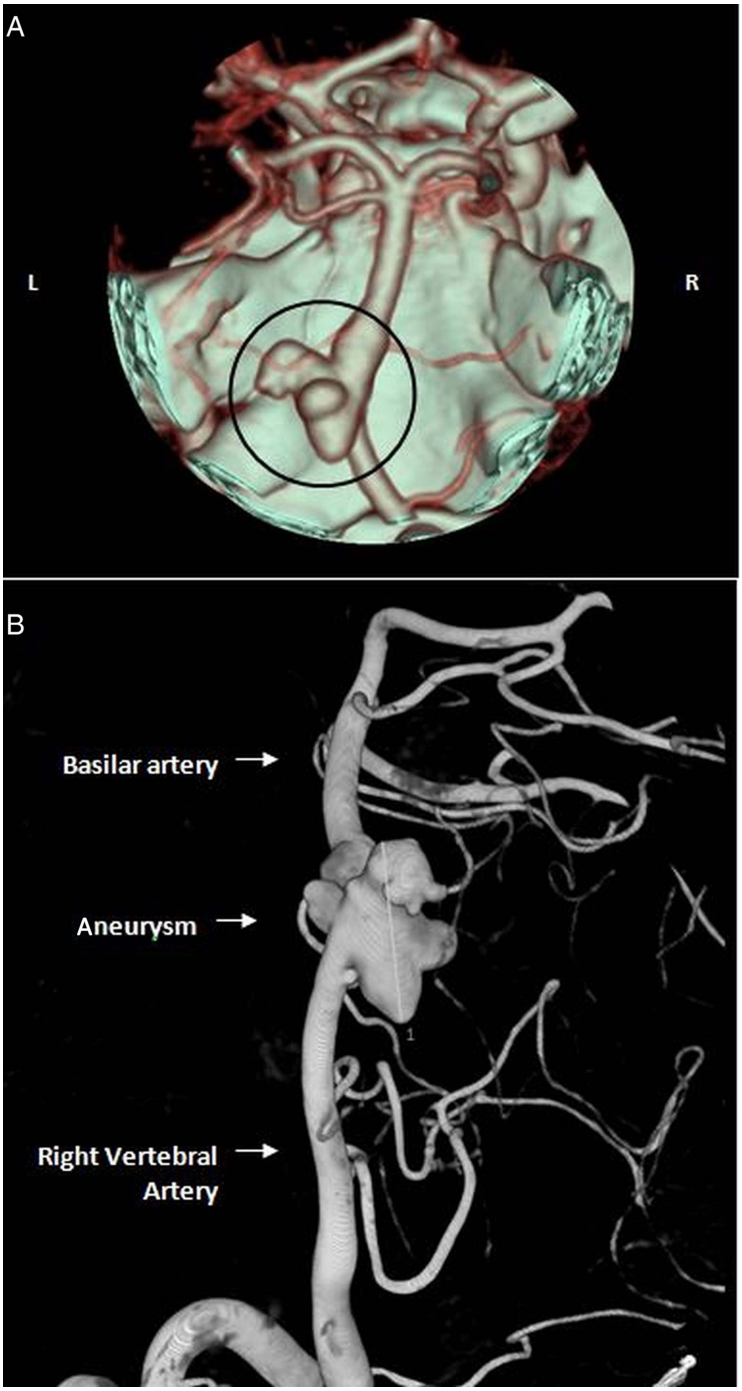

Figure 1 Three-dimensional images showing complex, multilobular, fusiform aneurysmal dilation of right vertebrobasilar junction. (A) CT and (B) cerebral angiography.

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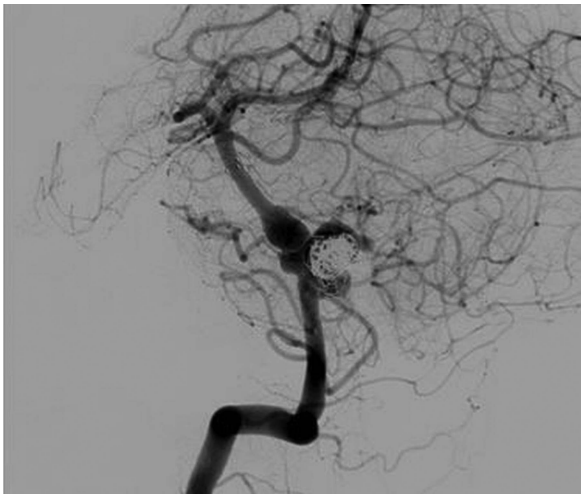

Figure 2 Cerebral angiography (postoperative day 9) showing coil embolisation of vertebrobasilar junction aneurysm.

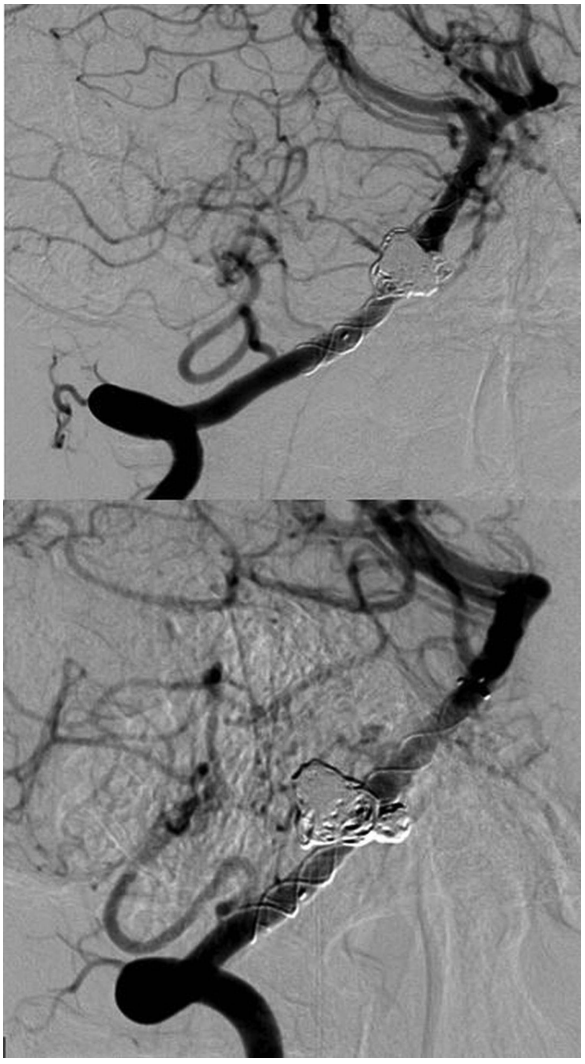

Figure 3 Follow-up angiography at 6 months showed complete occlusion of the aneurysm and the basilar artery lumen inside the stents appeared normal.

A 23-year-old woman presented with a 3-day history of sudden onset worsening occipital headache associated with neck stiffness and photophobia. CT of her head showed focal SAH in the posterior fossa. A subsequent CT angiography revealed a complex, multilobular, fusiform right VB junction aneurysm with ectasia of the proximal basilar artery (figure 1). The left vertebral artery was hypoplastic (normal variation).

After careful evaluation of treatment options, the patient underwent endovascular stent-assisted partial coil embolisation, with a view to further treatment with a flow-diverting stent after the acute phase. A cerebral angiography on postoperative day 9 confirmed the stent was in place, patent and there was no gross aneurysmal expansion (figure 2). The patient was discharged home 2 weeks postprocedure on antiplatelet therapy with a plan for close follow-up and further treatment.

Unfortunately, 1 day following discharge the patient sustained another SAH; she was readmitted at a different unit and underwent additional coiling of the residual aneurysm and two further stenting procedures (flow-diverting stent). She made an excellent recovery returning to full fitness. A follow-up angiography 6 months later showed the aneurysm was completely occluded and the basilar artery lumen inside the stents appeared normal (figure 3).

Learning points

- Spontaneous posterior circulation fusiform aneurysms are uncommon and more often found in younger patients. They may present with ischaemic symptoms, mass effect (eg, cranial nerve palsy) or intracranial haemorrhage.[1]
- These lesions are difficult to treat surgically and carry a high operative morbidity and mortality. Endovascular coil embolisation is a useful alternative treatment modality.
- The risk of rebleeding is high in patients with vertebrobasilar fusiform aneurysms who present with subarachnoid haemorrhage.[3]

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Competing interests None.

Patient consent Obtained.

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