Unusual and complex vertebrobasilar artery aneurysm

Kapil Mohan Rajwani,¹ Panayiotis Koumellis,² Sorin Bucur²

¹Brighton and Sussex University Hospitals, Brighton, UK

²Hurstwood Park Neurosciences Centre, Haywards Heath, West Sussex, UK

Correspondence to

Kapil Mohan Rajwani,
kapilrajwani@hotmail.com

Accepted 6 June 2014

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.

CrossMark

To cite: Rajwani KM, Koumellis P, Bucur S. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2014-205625

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 anti-platelet 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

Contributors KMR wrote the case report. PK and SB reviewed and edited the manuscript.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Echiverri HC, Rubino FA, Gupta SR, et al. Fusiform aneurysm of the vertebrobasilar arterial system. *Stroke* 1989;20:1741–7.
- 2 Suri A, Mehta VS. Giant vertebrobasilar junction aneurysms: unusual cases. *Neuro India* 2003;51:84–6.
- 3 Tan LA, Moftakhar R, Lopes DK. Treatment of a ruptured vertebrobasilar fusiform aneurysm using pipeline embolization device. *J Cerebrovasc Endovasc Neurosurg* 2013;15:30–3.

Copyright 2014 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow