

# Teaching Video NeuroImages: High blood flow velocity in the parent artery prior to basilar tip aneurysm rupture

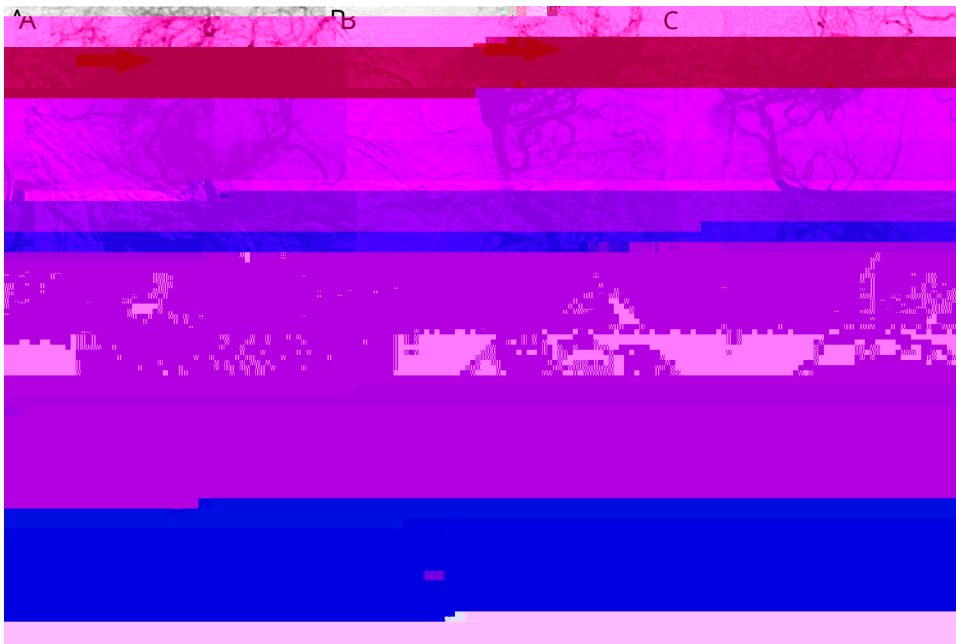
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**Figure 1** Coronal and sagittal digital subtraction angiography (DSA) images and axial head CT



Coronal (A) and sagittal (B) DSA images reveal moyamoya vessels (arrows), vertebral artery (arrowheads), and basilar tip aneurysm (stars). Coronal (C) and sagittal (D) DSA images show left internal carotid artery (ICA) (triangle), occlusion of right ICA (arrow), left anterior cerebral artery (arrowhead), and left middle cerebral artery (star). Axial head CT (E, F) demonstrates subarachnoid and ventricular hemorrhage.

A 70-year-old asymptomatic man presented with moyamoya disease (MMD)-associated basilar tip aneurysm (BTA) noted on digital subtraction angiography (figure 1, A–D). 4D-flow MRI revealed a concentrated inflow jet with high velocity compared with previous studies<sup>1</sup> (video 1 and figure 2, A–F). Considering the high risk of endovascular treatment, the patient chose conservative treatment. After 1 month, the aneurysm ruptured (figure 1, E–F).

The compensatory reaction due to internal carotid artery occlusion (figure 1D) could induce increased flow, leading to BTA formation and rupture. 4D-flow MRI can provide

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comprehensive hemodynamics with accurate blood flow and velocity.<sup>2</sup> MMD-derived concentrated inflow jet with high

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