

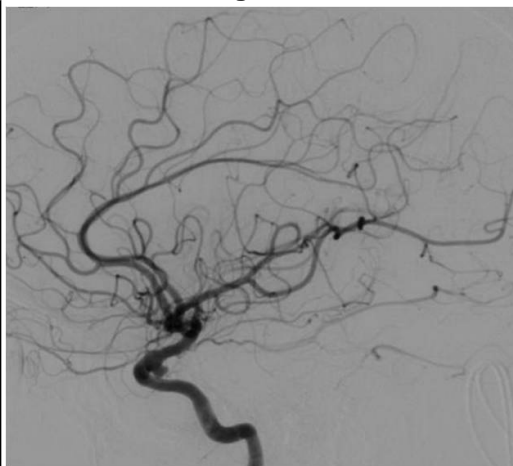
Introduction

Flow diversion has emerged as a promising alternative for the treatment of intracranial aneurysms. Relatively new to the market, the potential complications of these devices are still being characterized. We report the first case of acute distal migration of a flow diverting stent immediately after treatment.

Case Report

We report a 24-year old female who presented electively for flow diversion of a left paraclinoid aneurysm. She had been started on dual anti-platelet therapy 7 days before treatment. Her P2Y12 was 194 PRU on the day of treatment. Intra-operatively, she was found to have 4.1 x 5.0 x 4.8 mm aneurysm in the vicinity of the superior hypophyseal artery (Figure 1).

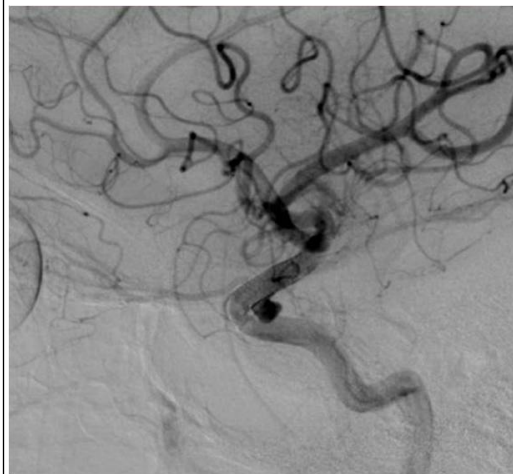
Figure 1



Lateral angiography following left ICA injection demonstrating a left paraclinoid aneurysm

An appropriately-sized flow diverting stent (Pipeline Embolization Device) was placed without complication under therapeutic heparinization. Immediate post-placement angiography revealed stagnation within the aneurysm dome with no evidence of impaired flow (Figure 2).

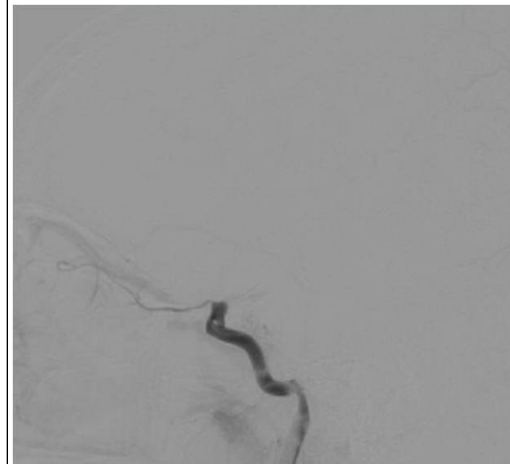
Figure 2



Successful placement of a flow diverting stent across superior hypophyseal artery

Upon emergence from general anesthesia, the patient was initially moving all extremities symmetrically. While still on the operative table, she developed acute right hemiparesis and a facial droop. Emergent angiography revealed complete thrombosis of the stent and migration of the flow diversion device to the supraclinoid ICA (Figure 3). The patient received intra-arterial tissue plasminogen activator and attempted thrombus aspiration.

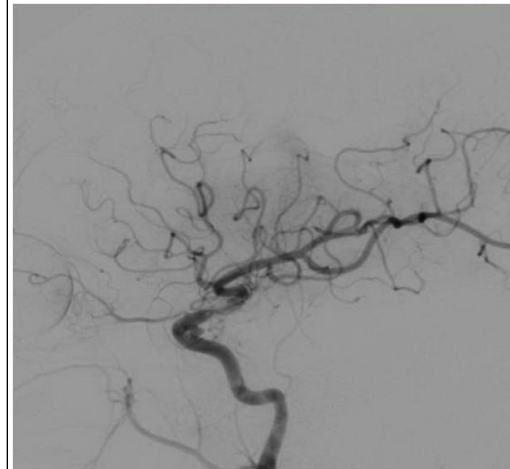
Figure 3



Subsequent angiography revealing complete occlusion of the left ICA and distal acute migration of the flow diverter

Despite TICI 2b revascularization (Figure 4), the patient unfortunately suffered a dominant left MCA infarct.

Figure 4



Successful TICI 2b revascularization with distal flow diverter migration

Conclusions

While flow diversion continues to play an expanding role in the treatment of intracranial aneurysms, many potential complications remain unknown. Flow diverter migration has been previously reported in a delayed chronic fashion, believed to be secondary to chronic in-stent thrombus formation(1-3). Given the complete occlusive thrombus in this case, this is the likely etiology underlying the device migration. We report the first case of an acute distal migration of a flow diversion device immediately after treatment.

References

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2. Cohen JE, Gomori JM, Moscovici S, Leker RR, Itshayek E: Delayed complications after flow-diverter stenting: reactive in-stent stenosis and creeping stents. *J Clin Neurosci* 21:1116-1122, 2014.
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