

True Posterior Communicating Artery Dissecting Aneurysm Treated with Primary Coiling Complicated by PCA-Territory Infarction and Homonymous Hemianopia

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I. Background

Cerebral aneurysms can be tedious and complicated to treat, given their unpredictable nature and potentially harmful outcomes. True PCoA dissecting aneurysms, specifically, are rare¹. Coiling is used to treat intracranial aneurysms by isolating the aneurysmal sac from active circulation using detachable coils, therefore blocking blood flow to the aneurysm. Even though it is a common technique, it carries risks of distal embolization and branch/perforator compromise.

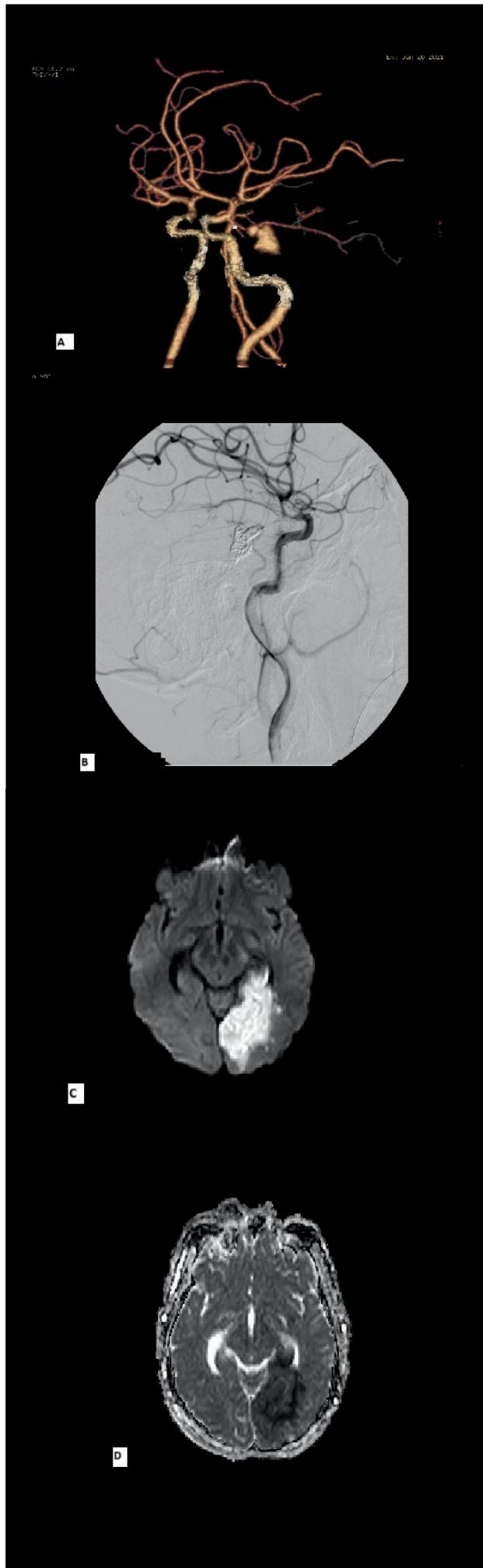
Objective: To describe a case of PCA-territory infarction following primary coiling of a true PCoA dissecting aneurysm, resulting in persistent visual deficit.

II. Case Description

A 37-year-old female presented with basal subarachnoid hemorrhage (Fisher 2, WFNS 1, GCS 15). Cerebral angiography demonstrated a true posterior communicating artery dissecting aneurysm.

She underwent primary coil embolization under intraprocedural anticoagulation and periprocedural antiplatelet therapy. Early post-treatment MRI demonstrated an acute left PCA-territory infarction (DWI/ADC correlation), and neurologic exam revealed right homonymous hemianopia. She was discharged with GCS 15 and persistent visual field deficit.

III. Results



IV. Conclusions

PCA-territory infarction may complicate coiling of true PCoA dissecting aneurysms despite parent vessel patency preservation. Likely mechanisms include thromboembolism during coil deployment and compromise of PCoA-PCA perforators or fetal-type flow configurations². Although the patient was receiving both AC and AP therapies, the ischemia developed with no obvious parent vessel occlusion in the visual cortex.

V. Learning Points

- Ischemic complications can occur despite anticoagulation/antiplatelet therapy and apparent parent vessel patency.
- Variant PCoA/PCA anatomy can increase ischemic risk and should inform strategy.
- In addition to AC and AP therapies, more measures may be necessary to prevent adverse outcomes in aneurysm treatment with dissection and coiling
- Immediate post-treatment MRI helps correlate angiographic result with neurological outcome.
- Additional research needs to be done to clarify the mechanisms behind the infarction during coiling
- anatomy/lesion type.

VI. References

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