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# ENDOVASCULAR COILING OF FUSISACCULAR LEFT POSTERIOR CEREBRAL ARTERY P1 SEGMENT ANEURYSM WITH NEUROGENIC STUNNED MYOCARDIUM AND PULMONARY EDEMA. - A RARE CASE REPORT.

**Dr. Sudhir Suggala** MCH [Neurosurgery], FINR[Neuro Intervention] Dr.PSIMS&RF , Vijayawada, Andhra Pradesh, India.

**Dr. Magdum Ali Mujawar Shaik*** Post Graduate Of General Surgery Dr.PSIMS&RF , Vijayawada, Andhra Pradesh, India. *Corresponding Author

**Dr. Mayanam Subhashini** Post Graduate Of General Surgery Dr.PSIMS&RF , Vijayawada, Andhra Pradesh, India.

**ABSTRACT** The Posterior cerebral artery is a rare site of aneurysm formation. Posterior cerebral artery (PCA) dissecting aneurysms account for less than 1.2% of all intracranial aneurysms, with most located at P2 or distal segment of the vessel. The major clinical presentations in this lesion are subarachnoid hemorrhage (SAH) and brain ischemia. Due to anatomic location of the PCA (richness of perforating branches, proximity to the upper brain stem, and lower cranial nerves).The detection of aneurysm has increased due to technological advances, and newer options of endovascular neurosurgical treatment like coiling give consistent results. We are reporting a rare case of left posterior cerebral artery P1 segment aneurysm with neurogenic stunned myocardium and pulmonary edema.

**KEYWORDS :** Aneurysm; P1 Segment Of Posterior Cerebral Artery; Endovascular Coiling.

## INTRODUCTION

Aneurysms of the PCA are rare, with an incidence in our practice of 1.2% of all types of aneurysms. Clinical presentation is variable with SAH, oculomotor palsy, visual field deficit, or a combination[13]. These aneurysms have some peculiar morphologic features and present with specific clinical findings that distinguish them from aneurysms occurring at other anatomic locations of the brain[1,2]. Recent data confirm good results when endovascular techniques treat these aneurysms. The PCA supplies part of the temporal cortex, the calcarine and occipital cortex, the brain stem, and thalamus. PCA aneurysms may be saccular, fusiform, or dissecting and can be located at various segments of the PCA[3,4]. Endovascular surgical treatment consists of selective occlusion of the aneurysm or parent artery occlusion[15]. Surgery of PCA aneurysms is technically challenging owing to the complexity of the perforating branches from the PCA and their relationship with cranial nerves and the upper brain stem[2]. Reports about endovascular treatment of PCA aneurysms are scarce. We report our experience with a ruptured PCA aneurysm in a 28-year-old with neurogenic stunned myocardium and neurogenic pulmonary edema as the additional medical challenges. This case was treated with selective occlusion with coils by the endovascular neurosurgeon.

## CASE REPORT

A 28-year-old woman was admitted four days ago at another hospital for SAH with sudden onset of severe headache and loss of consciousness. At admission, she was drowsy with GCS of E2VTM5. She was on mechanical ventilator support with three inotropes on run injection dopamine, injection noradrenaline, and injection vasopressin. Her pupils were bilaterally 2 mm slow reaction with PR-112, BP-90/50mm of Hg. 2D ECHO revealed EF of 30%, ECG showed no signs of ischemia, TROP -T was negative. Hence because of the above findings, the cardiologist diagnosed it to be neurogenic stunned myocardium. Chest X-Ray revealed bilateral neurogenic pulmonary edema. CT brain plain revealed diffuse SAH in the basal cisterns and intraventricular bleed. DSA revealed a fusisaccular aneurysm of size 7.35mm x 4.86mm x 2.29mm[neck] directed anterosuperior originating from the P1 segment of left PCA. She underwent endovascular neurosurgical coil embolization, and she was extubated in her postoperative period. The neurogenic pulmonary edema and stunned myocardium resolved in the postoperative period. She was neurologically intact at three months of follow-up.

## DISCUSSION

Aneurysms of PCA are rare, and they account about 1% of all intracranial aneurysms[5,7,10,11]. Anatomically PCA is divided into four segments[10,12] P1 segment begins from basilar artery bifurcation to the origin of the posterior communicating artery. P2 segment is further divided into anterior (P2A) and posterior(P2P) parts. P3 segment extends from the anterior aspect of the quadrigeminal cistern at the origin of the posterior temporal artery to the anterior limit of the calcarine fissure. P4 segment consists of terminal cortical branches. Aneurysms occur more at proximal segments than at distal segments. These aneurysms can be saccular, fusiform, mycotic, post-traumatic, and dissecting[5,6,8,10] . Some of the PCA aneurysms are giant and thrombosed. Cerebral CT angiogram and or MRA is usually helpful to come to the diagnosis and treatment plan. However, some complex aneurysm may require DSA for treatment strategy.

## CONCLUSION

Aneurysms arising from the PCA frequently affect young patients. PCA aneurysms tend to be large or giant dissecting aneurysms.[3] Endovascular surgery is associated with excellent results in aneurysms of the posterior circulation, including the PCA[3,4] We found that endovascular obliteration using coils is safe and effective in PCA aneurysm with a narrow neck[14].

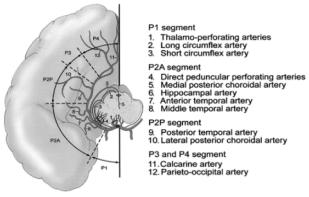


**Fig 1.BRANCHES OF POSTERIOR CEREBRAL ARTERY**

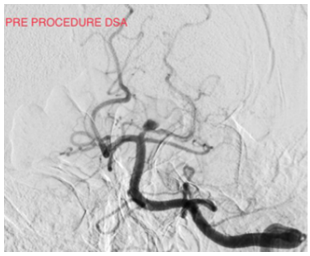


**Fig 2. PRE PROCEDURE DSA.**

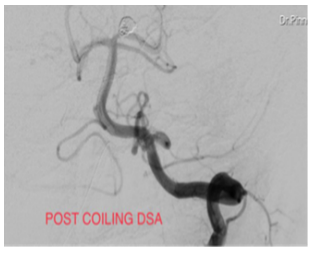


**Fig 3 POST COILING DSA**

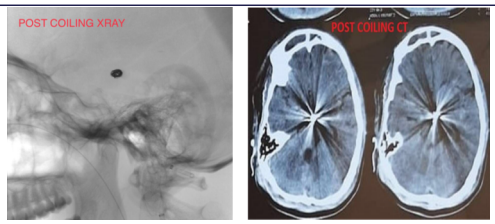


**Fig. 5,6 POST COILING X-ray and CT**

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