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Concurrent Existence of Multiple Intracranial Aneurysms

Karuna Tamrakar, MBBS
Department of Neurosurgery
Southern Medical University
Zhujiang Hospital, China

Bivek Karki, MBBS
Department of Radiology
Southern Medical University
Nanfang Hospital, China

Chuan Z Duan, PhD
Department of Neurosurgery
Southern Medical University
Zhujiang Hospital, China

Address for correspondence:
Chuan Z Duan, PhD
Department of Neurosurgery
Southern Medical University
Zhujiang Hospital, China
Email: karuna127@hotmail.com

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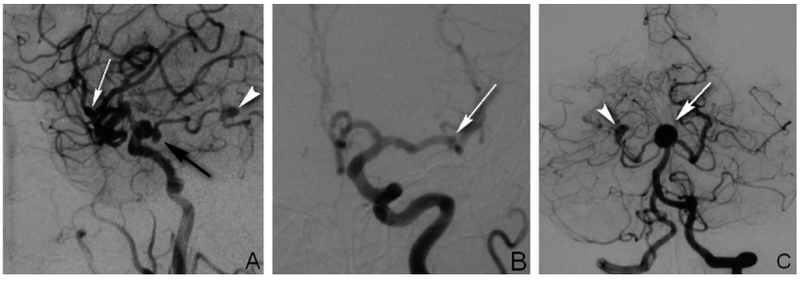

Figure1: A: Right ICA angiogram (anterior oblique 60º) shows multiple aneurysms located at ACA (white arrow), PComA (black arrow) and PCA (arrow head), B: Left ICA angiogram (anterior oblique 5º,cranial 27^0) showing 2mm by 1mm size aneurysm (arrow) located at MCA bifurcation, C: Left vertebral arteriogram (anterior oblique 3º, cranial 18º) showing 10mm by 10mm size at basilar tip (arrow) and right PCA (arrow head) aneurysm is also demonstrated.

Incidence of multiple intracranial aneurysms (MICA) ranges from 15 to 33.5 % and 95% of the cases present with two lesions with a female preponderance.[1] Internal carotid artery (ICA), posterior communicating artery (PComA), middle cerebral artery (MCA) and anterior cerebral artery (ACA) are the common locations for MICA. According to Juvela et al, annual incidence of aneurysm rupture was 1.4% and the cumulative rates of re-bleeding was 10% at 10 years, 26% at 20 years and 32% at 30 years in his series. [3]

A 61 year-old, hypertensive lady was evaluated for sudden onset of headache. CT scan revealed subarachnoid hemorrhage (SAH). Subsequently digital subtraction angiogram (DSA) demonstrated variable sized MICA in right PComA, PCA-P2 segment and ACA-A2 segment **(Figure 1 A)**. Similarly there were aneurysms in left MCA bifurcation and basilar top as well **(Figure 1 B, C)**. It is not easy to identify the ruptured aneurysm in MICA. Radioiaming picture and clinical findings sometimes can suggest the symptomatic aneurysm. Size of aneurysm is usually not a specific determining factor. It has been reported that both larger and smaller sized aneurysms had equal incidence of rupture. [2] However during subsequent evaluation, 18 aneurysms which ruptured later were 6 mm or less in diameter. In patients with multiple unruptured aneurysms who later presented with SAH, generally larger sized aneurysms were involved. [2]The optimal treatment for a patient harboring multiple lesions is still controversial, however it is essential to identify and treat the symptomatic lesion first to prevent disastrous re-bleed. The incidence of surgical complications resulting in poor outcome was significantly higher in patients with multiple aneurysms than in patients with a single aneurysm. Endovascular therapy in recent years has established an in a single procedure, particularly in acute phase of SAH.

References

1. Heiskanen O. Risk of bleeding from unruptured aneurysms in cases with multiple intracranial aneurysms. **J Neurosurg 55:** 524-526, 1981
2. HP Lai, KM Cheng, Simon CH Yu, KM Au Yeung, et al. Size, location and multiplicity of ruptured intracranial aneurysms in the Hong Kong Chinese population with subarachnoid haemorrhage. **Hong Kong Med J 15:** 262-266, 2009
3. Juvela S, PorrasM, Heiskanen O. Natural history of unruptured intracranial aneurysms: a long-term follow-up study. **J Neurosurg79:** 174–182, 1993