

Commentary

In this issue, Shukla *et al.*^[1] present the article entitled “Visual loss due to anterior communicating artery aneurysm,” which brings an unusual case of a 65-years-old patient who had complete loss of vision in right eye and temporal hemianopsia in left eye caused by a giant anterior communicating artery aneurysm. Some interesting points about this paper should be discussed, as follows.

Intracranial aneurysms usually present with subarachnoid hemorrhage (SAH) and although the majority of them remains asymptomatic until their rupture, around 10% may present compressive visual symptoms because of the proximity between circle of Willis and the anterior optic pathways.^[2-5] Aneurysms presenting with mass effect over the optic pathways commonly arise from the paraclinoidal segment, ACoA, and ICA bifurcation. Therefore, it is mandatory the perfect knowledge of anatomical variations of ACoA complex.^[2,6] Visual symptoms may be present in more than 25% of the patients with ACoA aneurysms, and there are several patterns of visual loss such as: Mass effect over the chiasma or optic nerve, usually with bitemporal hemianopia but also with ipsilateral hemianopia.^[2]

Regarding the mechanism of visual loss, its pathophysiology is multifactorial whose direct compression supports the use of microsurgical decompression of the visual pathways as mandatory treatment. On the other hand, the pulsation of the aneurysm would be one important cause of visual deficit, which could explain the good results from endovascular occlusion. However, the blood supply of the optic pathways may also be compromised by occlusion or kinking of the OphA, as well as the indirect compression of the optic nerve against the optic canal, especially in paraclinoidal aneurysms.^[2]

In the case presented, unfortunately, the patient refused treatment, giving no chance for improvement or recovery. However, there are some important data that supports neurosurgical management in situations like that, using microsurgical or endovascular techniques.^[7] When intracranial aneurysms present with mass effect, the goal for the treatment is not only total occlusion but also relief of the compression. Consequently, microsurgical techniques have obvious advantages over endovascular treatment, which is highlighted by some authors.^[2,7] In addition to the impossibility to relief the mass effect using endovascular treatment, this kind of technique may worsen the compression over the optic pathways by inducing intraluminal thrombosis, increasing distension of aneurysmal sac, or even leading to an inflammatory reaction and edema after endovascular coiling.^[2,8,9]

Besides the need of decompression using microsurgical techniques, there are important variables related to visual outcomes that include multifactorial pathophysiology, size of aneurysm, duration of symptoms and timing of the surgical treatment, and presence of calcification and intraluminal thrombus.^[2]

In conclusion, the decision-making process with regard to the best treatment must consider not only the aneurysm occlusion but also relief of the mass effect. In this direction, microsurgical clipping should be recommended as the first choice for intracranial aneurysms presenting with mass effect over the anterior visual pathways and performed as early as possible.

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