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International Journal of Clinical Case Reports and Reviews
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Clinical Images

Endovascular Interventional Treatment of Intracranial "Giant-Octopus"

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Received Date: May 22, 2024 | **Accepted Date:** June 13, 2024 | **Published Date:** June 25, 2024

Citation: Jiandong Zhu, Xin Jin, Zhengquan Yu, and Jiang Wu, (2024), Endovascular Interventional Treatment of Intracranial "Giant-Octopus", *International Journal of Clinical Case Reports and Reviews*, 18(2); **DOI:10.31579/2690-4861/480**

Abstract:

A 66-year-old female patient, because the dizziness worsened in the past half month, the patient went to the local hospital for a head computed tomography angiography (CTA) examination; the head CTA showed that the basilar artery apical aneurysm. The patient was transferred to our unit from a regional hospital.

Key words: apical aneurysm; dizziness; abnormalities; Giant-Octopus

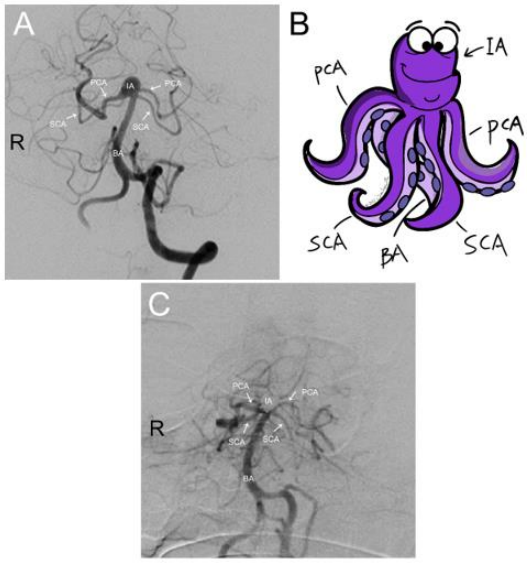
Summary

A 66-year-old female patient, because the dizziness worsened in the past half month, the patient went to the local hospital for a head computed tomography angiography (CTA) examination; the head CTA showed that the basilar artery apical aneurysm. The patient was transferred to our unit from a regional hospital.

In the past ten years, the patient with hypertension has regularly taken amlodipine besylate, but blood pressure is not monitored frequently. She had no family history of intracranial aneurysm or arteriovenous malformation. The immediate cause of her visit was the worsening of her dizziness.

After admission, the patient was clinically well with a blood pressure of 138/78 mmHg, the pulse of 85 beats per min, respiratory rate of 18 breaths per min, and oxygen saturation of 98% on room air. None of the laboratory investigations showed any significant abnormalities.

The patient underwent cerebral angiography after admission. During the operation, the apical aneurysm of the basal artery was seen, and the size was about 4.1mm×6.3mm (Figure).



BA: basilar artery, SCA: superior cerebellar artery, PCA: posterior cerebral artery, IA: intracranial aneurysm.

Figure 1. Apical basilar artery aneurysm. (A)Cerebrovascular digital silhouette angiogram showing a basilar parietal aneurysm. (B)Schematic showing the vessel structure surrounding the aneurysm. (C)Disappearance of aneurysm after transcatheter intracranial aneurysm embolization procedure.

Based on this result, we performed transcatheter intracranial aneurysm embolization; the surgery went smoothly. Postoperative angiography showed dense embolization of the spring ring in the aneurysm, and the aneurysm-carrying artery was unobstructed.

The patient was discharged with no significant complaints of discomfort, and the dizziness disappeared. After discharge, she periodically took oral aspirin and clopidogrel tablets for anti-plate therapy. During regular outpatient follow-ups, the patient recovered well.

Apical basilar artery aneurysms are located in the deep interpeduncular pool of the posterior cranial fossa, adjacent to critical neural structures, and closely associated with several major penetrating arteries [1]. Microsurgical treatment is difficult and risky, especially for wide-necked aneurysms, and it is difficult to obtain satisfactory results by clamping, even with a modified surgical approach [2]. In recent years, with the continuous development of endovascular treatment techniques, the invention of various new stents and balloons, and the innovation of different surgical procedures, the efficacy of apical basilar aneurysms has improved significantly, even for the relatively tricky wide-necked aneurysms. Treatment of apical basilar artery aneurysms by endovascular interventional procedures has proven safe and effective [3].

Many surgeons, especially community physicians, often lack sufficient experience in treating this type of aneurysm, which is challenging to operate, and we show here a typical case of apical aneurysm of the basilar artery with the associated vascular structures labeled in a schematic form. In this form, we hope to deepen the understanding of community medical personnel about the class of diseases to enhance community intervention, strengthen the health of the community, families, and individuals, and reduce the incidence of disability and institutionalized care.

List of abbreviations

BA, basilar artery; CTA, computed tomography angiography; IA, intracranial aneurysm; PCA, posterior cerebral artery; SCA, superior cerebellar artery.

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

Availability of data and materials

Not applicable

Competing interests

The authors declare that they have no competing interests.

Funding

This work was supported by the Medical and Health Science and Technology Innovation Project of the Suzhou Health Commission [grant number: SKY2022002], and the Special Funds for Science and Technology Programs of Jiangsu Provincial Department of Science and Technology [grant number: BE2023712].

Authors' contributions

JD-Zhu and X-Jin provided care for the patient. JD-Zhu and X-Jin wrote the initial draft of the manuscript. J-Wu collected the data and prepared the images. ZQ-Yu and J-Wu designed the paper, and revised the final manuscript. All authors reviewed and approved the final version of the manuscript. Written consent for publication was obtained from the patient.

Acknowledgements

None.

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DOI:10.31579/2690-4861/480