

Unilateral Triplication of Superior Cerebellar Artery Associated with Fetal Posterior Cerebral Artery: Case Report

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ABSTRACT

Introduction: Superior cerebellar artery is the most constant among the cerebellar arteries and is almost always present, sometimes it can be double, and more rarely, triple. **Methods:** We report the case of a 72-yr male patient who came to hospital in whom cerebral angiography was performed because of subarachnoid hemorrhage. **Results:** cerebral angiography showed the unusual presence of an embryonic right posterior cerebral artery, associated with triplication of the right superior cerebellar artery. **Conclusion:** The tripling of the SCA is seen in only 7% of angiographic abnormalities and rarely is associated with posterior communicating artery aneurysms and embryonic posterior cerebral artery, as in our case.

Key words: Angiographic abnormalities, Cerebellar arteries, Superior cerebellar artery,

INTRODUCTION

Superior cerebellar artery (SCA) is the most constant among the cerebellar arteries and is almost always present; is the most rostral of all infratentorial vessels, arises as a unique trunk, a few millimeters proximal to the origin of the posterior cerebral arteries, which divides into superior and inferior branches. The SCA can sometimes be double, and more rarely, triple.^{1,2}

CASE REPORT

We present the case of a male patient, 72-years-old, who was brought by family members to the emergency department of our institution because of intense holocraneal cephalgia. On physical examination, vital signs were stable, however stiff neck was present, so was decided to perform brain-TC scan revealing subarachnoid hemorrhage

probably from aneurismal origin, prompting to perform cerebral angiography, showing an aneurysm in the posterior communicating artery, during the procedure was evidenced as unusual anatomical variant, the presence of an embryonic right posterior cerebral artery, associated with triplication of the right SCA. (Fig. 1) Syngo iFlow sequence was obtained, confirming the unusual anatomical variant.

DISCUSSION

Diverse anatomical variants have been described regard to SCA, such as extraordinary origins, duplication and more rarely triplication.^{1,2} Embriologically, SCA surges from superior segment that ends in the bifurcation site of the basilar artery, when it divides into the posterior cerebral arteries (rostral edge bifurcation). The mean diameter of SCA is of 4.2 mm, with an average from 4.1 mm to 4.6 mm.³

Frequently, SCA originates from the basilar apex, but directly adjacent to the origin of the posterior cerebral arteries. SCA is subdivided into four segments: anterior ponto-mesencephalic segment, lateral ponto-mesencephalic segment, the cerebelomesencephalic segment and cortical segment. All SCA segments are anatomically related to cranial nerves III, IV and V.^{3,4}

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Fig 1: Cerebral angiography of the vertebrobasilar axis in the early arterial phase, showing a right SCA triplication.

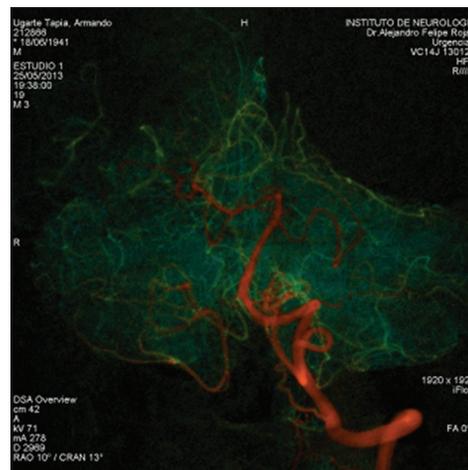


Fig 2: Syngo iFlow of the vertebrobasilar axis in the early arterial phase, showing a right SCA triplication.

Several variants of the SCA have been described, also with diverse points of origin, such as a single trunk and less frequently as double trunk. The most common is the origin in the segment P of the posterior cerebral artery. SCA is the most consistent artery in the posterior circulation in terms of origin and location, so the basilar artery bifurcation is an important determinant of the initial course of SCA.^{5,6}

The tripling of the SCA is seen in only 7% of angiographic abnormalities and rarely is associated with posterior communicating artery aneurysms and embryonic posterior cerebral artery, as in our case.

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