

Pictorial CME

Persistent Hypoglossal Artery — A Rare Vascular Anomaly

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Fourty Years old male, non alcoholic, not a known hypertensive who presented with sudden onset of severe headache. Neurological examination was normal. CT brain and MRI brain showed left frontal white matter and external capsule hemorrhage. Patient improved well. Since patient had recurrent attacks of headache, Digital subtraction angiography was done to look for any aneurysms and A-V malformations. It revealed bilateral persistent hypoglossal artery (Fig 1&2) and absence of vertebral arteries (Fig 3).

communicating artery and vertebro basilar system, these channels regress. The hypoglossal usually arises from internal carotid artery at C1 – C2 vertebral level and runs dorsally and lies lateral to hypoglossal nerve to enter the hypoglossal canal and then into posterior fossa to join basilar artery. Both vertebral arteries are absent or hypoplastic in these cases.

Identification of this vessel is important before carotid endarterectomy or skull base surgery because both anterior and posterior circulation is dependent

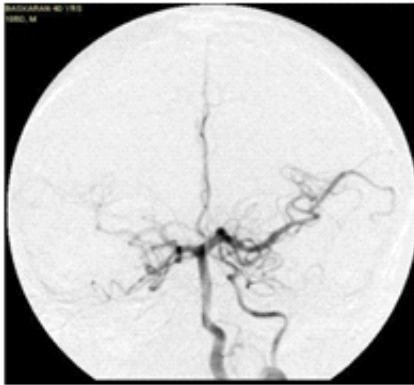


Fig 1 — DSA showing Left Persistent hypoglossal artery (AP view)



Fig 2 — DSA showing Right Persistent hypoglossal artery (Sagittal view)



Fig 3 — DSA showing absence of left vertebral artery

DISCUSSION

Persistent hypoglossal artery is a rare carotid – basilar anastomosis with reported incidence between 0.03 % and 0.26 % on cerebral angiography¹. During embryogenesis, two longitudinal arteries are formed along the basal surface of hindbrain. These vessels are supplied by anastomotic channels that connect them to the internal carotid arteries. They are trigeminal, otic, hypoglossal and pro- atlantal segmental arteries. With the development of posterior

on arterial supply of internal carotid artery. Formation of atherosclerotic plaque and aneurysms has been reported in persistent hypoglossal arteries because of altered flow dynamics². The detection and investigation of persistent hypoglossal artery is of clinical importance, since its presence has been related with a spectrum of diseases. It can also be recognised as an incidental finding in cerebral angiography as in this case.

REFERENCES

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