日本医放会誌：46（10），1194—1197，1986（昭61）

Cerebellar Hemangioblastoma Supplied by the Artery of Davidoff and Schechter: A Case Report

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Research Code No. : 503.4

Key Words : Meningeal branch, Posterior cerebral artery, Cerebellar hemangioblastoma, Angiography

Davidoff and Schechter 動脈により栄養される小脳血管芽腫の１例

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（昭和61年３月28日受付）
（昭和61年５月26日最終原稿受付）

Davidoff and Schechter 動脈は後大脳動脈の硬膜枝として知られるが，正常の同動脈は細く，他の動脈枝との重なりもあって，血管造影にて同定不可能である．我々は拡張した同動脈によって一部分を栄養される小脳血管芽腫の１例を経験した．本症例では，両側の後大脳動脈が fetal type であったため，同定は容易であった．このような症例の存在は，小脳天幕面に接している小脳腫瘍の血管造影に際しては，両側の後大脳動脈の造影が必要であることを示唆する．なお，同様な症例の報告はいまだ見られない．

Introduction

The artery of Davidoff and Schechter (ADS), named by Wollschlaeger and Wollschlaeger[1], is well known as a meningeal branch of the posterior cerebral artery (PCA), arising from the proximal portion of the right or left PCA[2]. However, the ADS is rarely imaged angiographically during life[3]. Cerebellar hemangioblastoma is sometimes supplied by the tentorial artery which arises from the internal carotid artery[4]~[7]. The present case is the first reported of one being supplied by the ADS.

Case Report

A 31-year-old woman with a history of severe headaches of five-months duration and a one-month history of gait disturbance due to ataxia was referred for CT. A CT scan demonstrated a hypodense mass in the right cerebellum and an obstructive hydrocephalus. On postcontrast CT (Fig. 1), the mass showed enhanced and cystic components.

Right vertebral arteriography (Fig. 2) demonstrated a hypervascular tumor in the right side of the cerebellum immediately beneath the tentorium, supplied by the right superior cerebellar and right anterior inferior cerebellar arteries. Neither PCA was opacified. Intraarterial digital subtraction angiography of the

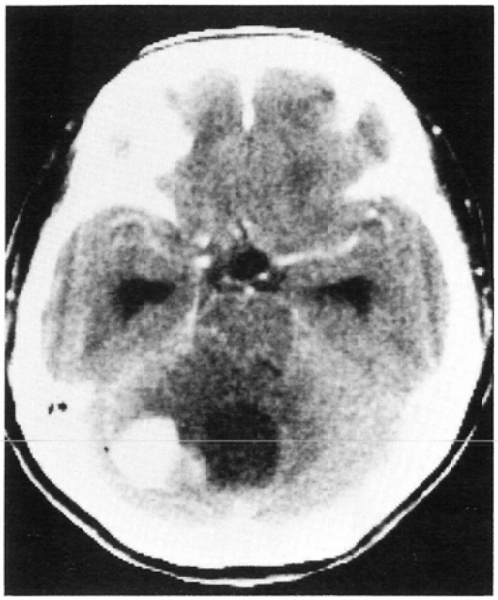

Fig. 1 Postcontrast CT scan. A large tumor with nodular enhancement and a cystic component is demonstrated in the right side of the cerebellum.

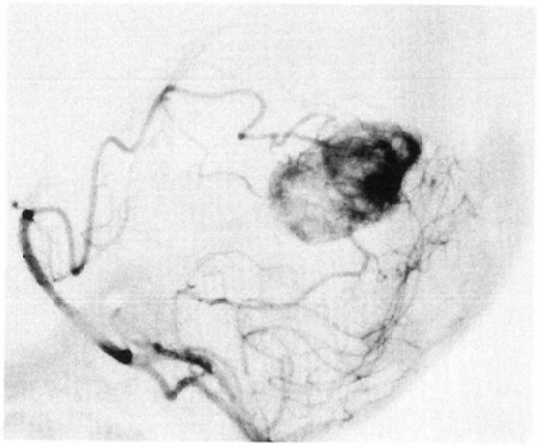

Fig. 2 Lateral projection: Arterial phase of the right vertebral injection. The right sided cerebellar tumor is supplied by the right superior cerebellar and right anterior inferior cerebellar arteries.

Fig. 3 Towne projection: Intra-arterial digital subtraction angiography of the right common carotid injection. An abnormal stain is demonstrated unexpectedly.

4A 4B

Fig. 4A and B Lateral projection: Stereoscopic magnification angiography of the right common carotid injection. An enlarged artery arising from the proximal portion of the right PCA (arrows) supplies the right sided cerebellar tumor. This artery is the meningeal branch of the PCA, termed the "artery of Davidoff and Schechter (ADS)".

right common carotid artery (Fig. 3) was performed in order to document the normal[8]. However, an abnormal stain was demonstrated unexpectedly. Stereoscopic magnification angiography of the right common carotid artery (Fig. 4) revealed a so-called fetal PCA, and an enlarged artery arising from the proximal portion of the PCA also supplied this cerebellar tumor.

The tumor, of which superior margin attached to the inferior surface of the tentorium, was totally removed via the suboccipital infratentorial approach, and the histological diagnosis was "capillary hemangioblastoma".

Discussion

The ADS is a meningeal branch of the proximal protion of the PCA. It supplies the medial aspect of the tentorium and the posterior segment of the falx cerebri. It is observed during nearly every postmortem brain angiography[2]. However, the normal ADS is so small that it usually cannot be imaged angiographically in vivo. Weinstein, et al[3] reported enlarged ADS in three patients, with a meningioma of the posterior falx cerebri, with a dural arteriovenous malformation in the parieto-occipital region, and with a mass in the posterior portion of the septum pellucidum, angiographically.

Cerebellar hemangioblastoma arises on the cerebellar surface or in the cerebellar fissure, and is sometimes partially supplied by meningeal branches, including the tentorial branch of the internal carotid artery[4]~[7]. However, there is no previously reported case of its being supplied by the ADS.

In the present case, neither PCA was opacified during right vertebral arteriography. So, the ADS was easily recognized on right common carotid arteriography without superimposition of vessels. All but one branch of the PCA supply the supratentorial brain tissue. The other, the ADS, supplies the medial aspect of the tentorium and the posterior segment of the falx cerebri. The findings in the present case suggest that when arteriography of a cerebellar tumor lying on or beneath the medial portion of the tentorial surface is performed, both PCAs should be studied.

Acknowledgement

We are grateful to Dr. Walter J. Russell and Dr. Masayuki Matsunaga for their valuable suggestions.

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