Intraventricular Angiolipoma

H K Lee*, A R I Ghani*, S Sayuthi*, J Abdullah*, F Mustaffa, N Othman**, J Salmah*****

*Department of Neurosciences, **Department of Pathology, ***Department of Radiology, School of Medical Sciences, University Sains Malaysia, 16150 Kubang Kerian, Kelantan

SUMMARY

We report a case of 50-year-old man who was presented with recurrent episodes of left sided hemiparesis. CT scan and MRI brain revealed a large intraventricular fatty lesion. Histopathological examination showed a picture of angiolipoma.

KEY WORDS:
Intraventricular angiolipoma

INTRODUCTION

Intraventricular angiolipoma is a very rare benign mesenchymal tumour. Angiolipoma itself is a rare variant of lipoma which consists of fatty and vascular component. This lesion can present with history of seizure, progressive neurological deficit, symptoms of increased intracranial pressure or intracranial hemorrhage depending on its size and location.

CASE REPORT

A 50-year-old Malay gentleman who was a known case of chronic hypertension and hyperlipidemia presented with two episodes resolving left sided hemiparesis within few days time. He was well until end of October 2005, when he was admitted with history of left hemiparesis and slurred speech for five days. He was readmitted due to similar presentations in the end of November 2005. He had almost complete recovery from his limbs weakness after few days of hospital stay. He had no history of high fever, neck pain, head trauma or sign and symptoms of increased intracranial pressure. Our clinical impression was reversible ischemic neurological deficit (RIND) over Rt ICA territory.

Physical examination showed upper motor neuron signs over left sided body with power 4+, brisk reflexes and extensor plantar response. Cardiovascular and respiratory system examination revealed normal findings. No carotid bruit was heard.

A MRI of brain with contrast revealed a huge non-enhancing intraventricular lesion which was homogenously hyperintense on T1WI and T2WI, not suppressed on FLAIR and totally suppressed on STIR. This has implied that the lesion contained mainly fatty tissue. This is suggestive of intraventricular lipoma (Fig 1).

Patient underwent craniotomy and excision of tumour through right sided frontal transcortical transventricular approach. An encapsulated yellowish solid fatty tumour was partially excised with suction and ultrasonic aspiration. Intraoperatively the tumour was very oozy. Bleeding point was secured with diathermy and surgicele. Histopathology (Fig 2) showed mature adipose tissue with abnormal vascular structures. The vessels had abnormal caliber and the arteries

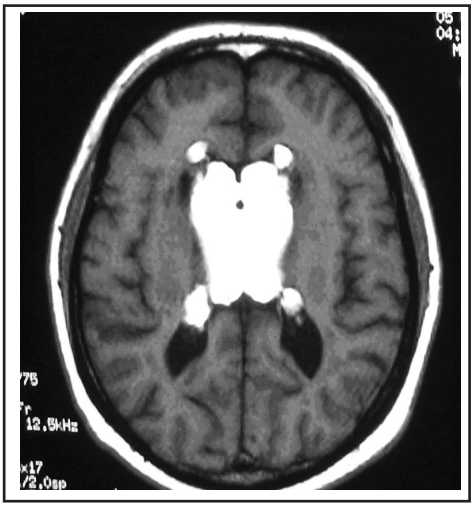

Fig. 1: A MRI brain demonstrated a homogenous intraventricular lesion situated mainly over the both frontal horn and body of lateral ventricles.

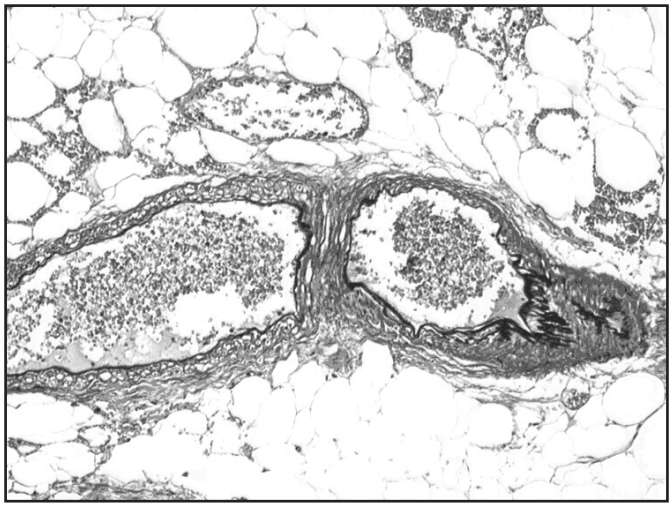

Fig. 2: Mature adipose tissue was seen with abnormal vascular element.

This article was accepted: 11 August 2007
Corresponding Author: Lee Hock Keong, Department of Neurosciences, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan Email: tamagozhi@yahoo.com

were distorted with irregular thickness and luminal size. Elastic lamina were abnormal. This was compatible with angiolipoma.

Postoperatively the patient developed hydrocephalus secondary to intraventricular hemorrhage. External ventricular drainage was inserted for CSF diversion and the EVD was managed to wean off in a week time. Patient was subsequently discharged home with no new neurological deficit.

DISCUSSION

Angiolipoma was first established as a specific entity in 1960[1]. They were most commonly found in the subcutaneous tissue of the trunk and extremities. Other sites had been reported like head and neck, facial skeleton and salivary glands. Intracranial angiolipoma is extremely rare[2]. The illustrated case is an intraventricular angiolipoma.

Angiolipomas are composed of mature adipocytes and abnormal vasculature. They can be further divided into infiltrating (non-capsulated) and noninfiltrating type (capsulated)[3]. Microsopically angiolipoma consists of mature adipocytes with interspersed vascular structures lined by elongated endothelial cells. The abnormal vascular component can resemble arterial, capillary or venous pictures. The illustrated case was more of abnormal arterial picture. Occasionally the vascular channel may contain fibrin or calcified thrombi which was not presence in this case.

The etiology of angiolipoma remains unclear. Most author believe angiolipoma arises from primitive pluripotential mesenchyme cell[1]. Other possible causes include fatty metamorphosis of a central hemangioma and hyperplasia of fat with an associated increase in vascular channels[4]. Some authors consider angiolipoma as an intermediate stage between lipoma and hemangioma.

Nowadays angiolipoma can be diagnosed certainty with the advent of MRI. Angiolipomas are hyperintense on T1 weighted MRI, T2 weighted MRI and suppressed on fat suppression sequence. Angiolipomas are usually enhanced with contrast which will differentiate them from dermoid and lipoma[5]. The illustrated case was not enhanced with contrast.

The treatment of intracranial angiolipoma is total gross surgical removal[2]. The vascular component can lead to massive bleeding intraoperatively. This tumour may have a benign natural history and conservative approach should be considered in asymptomatic patient.

In summary, intraventricular angiolipoma should be treated conservatively if patient is asymptomatic because its abnormal vascular component can bleed torrentially intraoperatively. The illustrated case has developed obstructive hydrocephalus secondary to intraventricular hemorrhage postoperatively.

REFERENCES

1. Howard WR, Helwig EB. Angiolipoma. Arch Dermatol 1960; 82: 924-31.
2. Andaluz N, Balko G, Bui H, Zuccarello M. Angiolipomas of the central nervous system. J Neurooncol 2000; 49: 219-30.
3. Lin JJ, Lin F. Two entities in angiolipoma. A study of 459 cases of lipoma with review of literature on infiltrating angiolipoma. Cancer 1974; 34: 720-7.
4. Alvi A, Garner C, Thomas W. Angiolipoma of the head and neck. J Otolaryngol 1998; 27: 100-3.
5. Provenzale JM, McLendon RE. Spinal angiolipomas: MR features. AJNR Am J Neuroradiol 1996; 17: 713-9.