AN UNUSUAL HEAD INJURY ASSOCIATED WITH A MIDDLE MENINGEAL ARTERY ANEURYSM – A CASE REPORT

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SUMMARY

A patient is reported with a head injury and skull fractures following an epileptic seizure. She was found to have both an intracerebral haematoma and a non traumatic aneurysm of the middle meningeal artery associated with an extradural haematoma on the same side. The significance of early surgical intervention is emphasised along with a review of the literature.

INTRODUCTION

Aneurysms of the middle meningeal artery are rare and may be of traumatic or non-traumatic origin\(^1\). We report a patient who presented with head injury following a seizure, in whom an incidental non-traumatic middle meningeal artery aneurysm was demonstrated.

CASE REPORT

A 41-year-old lady with no relevant past history developed a generalised (grand mal) convulsion. As a result of the convulsion, she fell and struck the left temple. When first seen, her Glasgow Coma Scale (GCS) was 12/15. Following transfer to the Regional Neurosurgical Department her GCS had improved slightly to 13/15 without any focal neurological signs. She had, however, sustained a left parieto-occipital bruise and a black eye. X-rays revealed a left temporo-parietal fracture (Figure 1). Computerised tomography (CT) scan demonstrated an intracerebral haematoma in the left temporal lobe along with a small extradural haematoma (Figure 2). Left carotid angiography showed a bi-lobed, smooth walled aneurysm in the anterior branch of the middle meningeal artery (Figure 3a and b).

At surgery the fracture complex was confirmed together with a small extradural blood clot. After removal of the extradural haematoma there was no evidence of the aneurysm. It was presumed to have been removed with the clot. The intracerebral haematoma was then evacuated.

Post-operatively the patient made a complete recovery. Subsequent angiography showed no evidence of the aneurysm (Figure 4).

DISCUSSION

Middle meningeal artery aneurysms are rare. The incidence of traumatic aneurysms of the middle meningeal artery ranges from 0.4% to 0.9% of all intracranial aneurysms. Of the 24 cases of traumatic aneurysm reported, most were associated with clots – an extradural in 70%, subdural in 10%, intracerebral haematomas in 5% and a mixture of sites...
in 15%, an extradural haemorrhage was associated with the significant mortality rate of 24%. The angiographic features in traumatic aneurysms consist of an irregular outline of the aneurysm sac, delayed filling and slow emptying, a peripheral location and the absence of a neck.

Only six patients with non-traumatic aneurysms of the middle meningeal artery have been reported and only two with associated extradural haematomas. The aneurysm in our case had all the angiographic appearances of the non-traumatic variety – it was smooth walled and regular in outline, filled rapidly, was relatively centrally placed, and had a well defined neck.

The fall consequent on the seizure caused a skull fracture. The presence of a pre-existing non-traumatic aneurysm made her more liable to the complication of an extradural haematoma. Early surgical intervention in this patient averted the catastrophe of neurological deterioration or even death from an extending extradural haemorrhage.

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REFERENCES


