

SHORT COMMUNICATION**Case report**

Partial retinal artery occlusion after coil embolization of an intracerebral aneurysm

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ABSTRACT: Occlusion of the retinal artery is a rare complication after therapeutic embolization. We present a case of a partial retinal artery obstruction following coil embolization of an intracerebral aneurysm. To our knowledge, only six cases of acute occlusion of the choroidal and/or retinal arteries after therapeutic embolization have been reported so far. The case presented here, however, is the first in which platinum microcoils were the material used. In addition the retinal ischemia was reversible, visual acuity returning to normal and cutten-wool spot and retinal hemorrhages resolving spontaneously. (*Eur J Ophthalmol* 1999; 9: 142-4)

KEY WORDS: Coil embolization, Intracerebral aneurysm, Retinal artery occlusion

Accepted: January 8, 1999

INTRODUCTION

Intracerebral aneurysms are usually treated by surgical clipping. In some instances, however, an endovascular approach to aneurysm obliteration, by detachable balloon occlusion or by placing platinum microcoils, may be considered. The method is believed to be relatively safe, and complications have been rare.

We present a well – documented case of incomplete retinal artery obstruction following coil embolization of an intracerebral aneurysm. To our knowledge, only six cases of acute obstruction of the choroidal and/or retinal arteries after therapeutic embolization have been reported so far (1-3). The case described is the first one secondary to embolization with platinum microcoils.

Case Report

A 50-year-old man presented with symptoms compatible with spontaneous subarachnoid hemorrhage. CT – scan showed a subarachnoid hemorrhage in the left temporal lobe (Fig. 1). Cerebral angiography re-

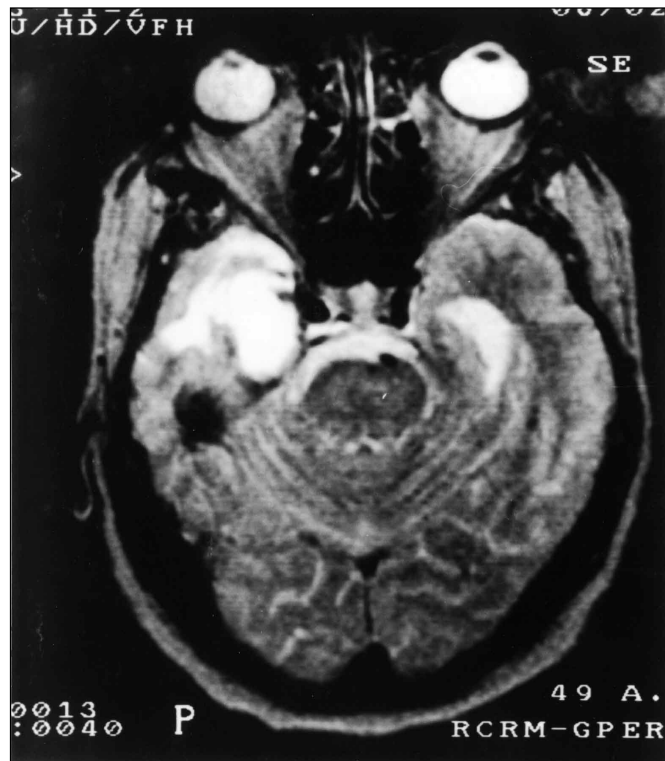


Fig. 1 - MRI showing a subarachnoid hemorrhage in the left temporal cerebral lobe.



Fig. 2 - Angiography after coil placement showed complete obliteration of the aneurysm.

vealed a 5x5 mm aneurysm of the left internal carotid artery. It was decided to perform immediate emergent occlusion of the aneurysm by an endovascular approach. The aneurysm was catheterized with a 0.018 Tracker catheter (Target Therapeutics, Fremont CA and two platinum microcoils (Target Therapeutics) were delivered into the aneurysm through the catheter. Angiography after coil placement showed complete obliteration of the aneurysm (Fig. 2).

Preoperative ophthalmic examination best corrected visual acuity was 20/20 bilaterally, and no abnormality was found ophthalmoscopically. The patient noted darkness in his left eye 10 min after the operation. Ophthalmological examination 12 h later found visual acuity reduced to hand motion in the left eye. The left fundus showed one single cottonwool spot in the macular area and two small hemorrhages in a peripapillary distribution (Fig. 3). Neither emboli nor retinal edema

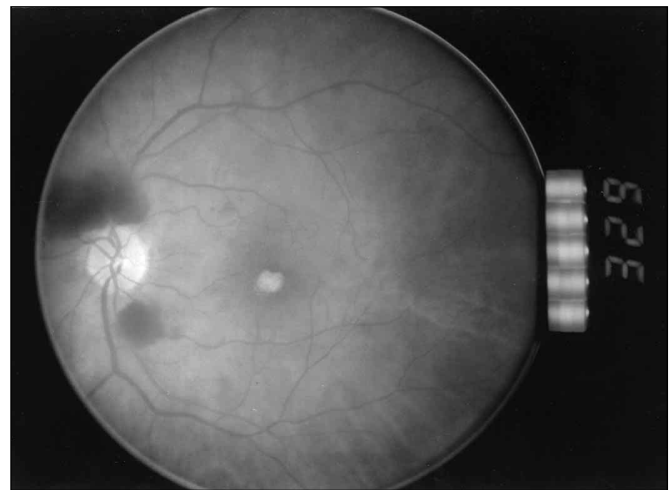


Fig. 3 - Fundus of the left eye 12 h after coil embolization showing one cotton-wool spot in the macular area and two small superficial retinal hemorrhages in a peripapillary distribution. The visual acuity was hand motion.

Fig. 4 - Left fundus five months after therapeutic embolization absolutely normal and visual acuity was 20/20.



could be seen, and the patient was thought to have a partial central retinal artery obstruction. The patient refused fluorescein angiography and was given oral acetazolamide and nonsteroidal anti-inflammatory drugs. One month later, visual acuity was 20/200 in his left eye. The retinal hemorrhages and cotton-wool spot were smaller. Visual acuity improved reaching 20/20 five months after embolization, at fundoscopic appearance was absolutely normal (Fig. 4).

Retinal artery occlusion after coil embolization

DISCUSSION

The sudden decrease in vision in the left eye, the presence of one cotton-wool spot with only a few small hemorrhages in the posterior pole, and the previous therapeutic embolization are strongly consistent with the diagnosis of retinal artery obstruction. To our knowledge, only six cases of acute obstruction of the choroidal and/or retinal arteries after therapeutic embolization have been reported (1-3) and the case presented is the only one in which platinum microcoils were used. This endovascular approach for aneurysm obliteration is believed to be relatively safe, and complications have been rare. Retinal artery occlusion af-

ter therapeutic angiography supposedly results from a movement or a retrograde flow of embolic materials or an embolism with preexisting thrombus. The sudden onset of the visual disturbance, the use of platinum microcoils and no liquid materials, and the recanalization are consistent with the diagnosis of partial retinal artery occlusion caused by preexisting thrombi.

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