

BEHÇET'S DISEASE ASSOCIATED WITH SUBARACHNOID HEMORRHAGE DUE TO INTRACRANIAL ANEURYSM

Senel K*, Pasa O*, Baykal T*, Ugur M*, Levent A**, Melikoglu M***, Melikoglu MA****

Behçet's disease (BD) is a multisystemic, recurrent inflammatory disorder affecting the eyes, skin and mucosa, locomotor, respiratory, gastrointestinal, nervous and vascular systems¹. Although the venous system is affected in 95% of cases with vascular involvement, arterial involvement is rare with an incidence of 2,2-7,7%^{2,3}. Besides stenosis and thrombosis, aneurysm can also occur as an arterial involvement in BD. Aneurysm formation in vasculo-Behçet's disease usually presents in the systemic major arteries whereas intracranial aneurysms have been reported to be mainly located in the anterior circulation in most of the previously published cases. The literature reveals few cases with aneurysm presented in the posterior circulation^{2,3,5}.

We report a 45 year-old Turkish man with BD, who had subarachnoid haemorrhage due to the rupture of a posterior cerebral artery aneurysm. A digital subtraction angiography of left vertebral artery showed an aneurysm of the posterior cerebral artery (Figure 1). Although endovascular embolization was planned for the treatment, it was not performed because aneurysm seemed to be spontaneously partial thrombosed in the control cerebral angiography after 4 week (Figure 2). He was discharged from hospital after ten days. In the control visit after six months, he was neurologically stable.

To our knowledge, there have been approximately 30 previously documented reports in 16 BD patients³⁻⁸. The ages of these cases were ranged be-

tween 12- 65 years and the male: female ratio was 13: 3. The clinical picture was subarachnoid haemorrhage in 11 patients, infarction in 3, and intracranial haemorrhage in one. The preceding duration of the disease ranged from 1 month to 25



Figure 1. Digital subtraction angiography. A left vertebral artery angiography shows an aneurysm on the posterior cerebral artery



Figure 2. The control cerebral angiography after 4 weeks shows spontaneously a partial thrombosed aneurysm of the posterior cerebral artery

*Department of Rheumatology, Ataturk University Medical Faculty, Erzurum, Turkey

**Department of Radiology, Ataturk University Medical Faculty, Erzurum, Turkey

***Department of Dermatology, Erzurum Regional Education and Research Hospital, Erzurum, Turkey

****Department of Rheumatology, Erzurum Regional Education and Research Hospital, Erzurum, Turkey

years. The aneurysms most frequently affected the middle cerebral artery. In 16 patients with 30 aneurysms, 9 had a total of 13 middle cerebral aneurysms; 8 had multiple aneurysm⁷. The role of vasculitis in the aetiology of this cerebral aneurysms has not been clarified⁴. However, the pathophysiology of the aneurysm formation is based on two factors, one of which is ruptured of internal and external elastic lamina due to thinning of tunica media and the other vasculitis developing due to lymphocytic infiltration of vasa vasorum⁸. Vascular complications in BD develop 3-16 years after the disease onset and the inflammatory changes may increase the rebleeding tendency of the aneurysm^{8,9}. Our review of the literature showed that the cerebral aneurysm were mostly located in the anterior cerebral circulation similar to those in the aneurysm cases without BD. As in our case, only in few BD cases, aneurysm formation located in the posterior circulation^{2,3,5}.

In conclusion, we demonstrated that aneurysms of posterior circulation might be observed during the course of BD. However, it is necessary to investigate the anterior and also posterior circulation by non-invasive techniques.

Correspondence to

Professor Kazim Senel
Department of Rheumatology
Ataturk University Medical Faculty
Erzurum, Turkey
E-mail: kazimsenel@gmail.com

References

1. Akman-Demir G, Serdaroglu B, Tasci B. Clinical patterns of neurological involvement in Behçet's disease: Evaluation of 200 patients. *Brain* 1999;122:2171-2182.
2. Aktas EG, Kaplan M, Ozveren MF. Basilar artery aneurysm associated with Behçet's disease; a case report. *Turkish Neurosurgery* 2008;18:35-38.
3. Itoh K, Umehara F, Utatsu Y, Maruyama Y, Osame M. Medullary infarction due to vertebral dissecting aneurysm in a patient with Behçet's disease. *Rinsho Shinkeigaku* 1996;36:986-989.
4. Nakasu S, Kaneko M, Matsuda M. Cerebral aneurysms associated with Behçet's disease: a case report. *J Neurol Neurosurg Psychiatry* 2001;70:682-684.
5. Kizilkilic O, Albayram S, Adaletli I, Ak H, Islak C, Kocer N. Endovascular treatment of Behçet's disease-associated intracranial aneurysms: report of two cases and review of the literature. *Neuroradiology* 2003;45:328-334.
6. Katoh K, Matsunaga K, Ishigatsubo Y, Chiba J, Tani K, Kitamura H, Tani S, Handwerker BS. Pathologically defined neuro-,vasculo-, entero-Behçet's disease. *J Rheumatol* 1985;12:1186-1190.
7. Kaku Y, Hamada JI, Kuroda JI, Kai Y, Morioka M, Kuratsu JI. Multiple peripheral middle cerebral artery aneurysms associated with Behçet's disease. *Acta Neurochir* 2007;149:823-827.
8. Matsumoto T, Uekusa T, Fukuda Y. Vasculo-Behçet's disease. A pathologic study of eight cases. *Hum Pathol* 1991;22:45-51.
9. Tüzün H, Besirli K, Sayin A, Vural FS, Hizli N, Yazici H. Management of aneurysms in Behçet's syndrome: an analysis of 24 patients. *Surgery* 1997;121:150-156.