Microstructure of internal carotid blood blister aneurysms under scanning electron microscope

Figure 1 Typical image of intracranial blood blister aneurysm (BBA)

(A, B) A right internal carotid artery BBA on 3D digital subtraction angiography reconstruction and macrostructure during surgery.

Blood blister aneurysm (BBA) represents approximately 0.5%–2% of all ruptured aneurysms.¹ The typical morphology of BBA is a small and fragile aneurysm sac with wide-necked hemispheric bulges at nonbranching sites of the supraclinoid internal carotid artery (ICA). BBA may originate from subadventitial dissection of the ICA. The focal gap is present in the internal elastic lamina and media, which is most often covered with thin lacerated fragmented adventitia and clot. We saw a Tibetan woman with a right BBA of ICA (figure 1). The patient underwent clipping surgery after the BBA ruptured. We present the different microstructure of BBA and ordinary aneurysm under scanning electron microscope (figure 2).

Figure 2 Comparison of ordinary intracranial aneurysm and blood blister aneurysm (BBA) under electron microscope

(A) Consistent and glossy surface of ordinary aneurysm. (B) Inconsistent and rough surface of BBA (under scanning electron microscope, magnification $\times 3,000$).

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