

Traumatic brain injury with carotid canal penetrating wound

Traumatismo cranioencefálico com lesão penetrante do canal carotídeo

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Patient male, victim of aggression, comatose, with a screwdriver in his ear canal (Figure 1). CT scan showed a route of the screwdriver through the temporal petrous portion, through the internal carotid artery (ICA) course and a subdural hematoma (Figure 2).



Figure 1. Photograph showing the screwdriver in the ear canal of the patient before surgery.



Figure 2. Computed tomography (CT) showing significant brain swelling with large acute subdural hematoma (arrow) (A). Multiplanar Reconstruction (MPR) of the CT on the axial plane with bone window shows the screwdriver reaching the carotid canal (B). MPR of the CT on the coronal plane with bone window showing the route of the screwdriver in the carotid canal attached to the petrous portion of the temporal bone (C).

We performed hematoma evacuation, with subsequently intracranial and cervical ICA temporary clipping. We removed the screwdriver without bleeding (Figure 3). A postoperative angiography showed no vascular lesions (Figure 4). In the patient discharge, he had severe disability (Glasgow outcome scale 3).

In these cases there is high risk for bleeding^{1,2,3}. So, we believe that combined approach should be performed for safe removal of this penetrating body.

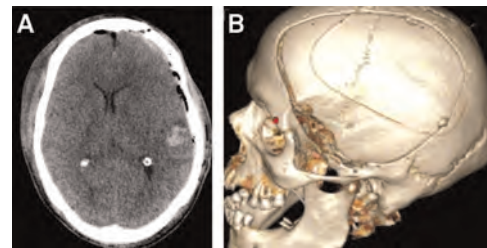


Figure 3. Postoperative CT scan shows a left frontotemporo-occipital craniotomy with a good radiological result, absence of ischemia or large hematomas, and improvement of brain swelling (A). 3D reconstruction of the CT scan highlights the large craniotomy performed (B).

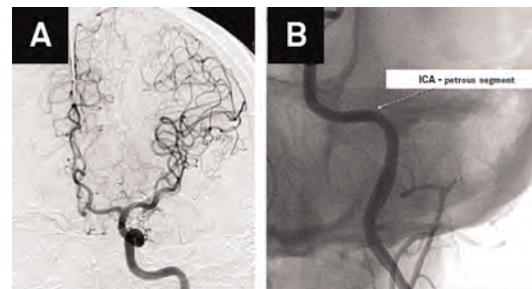


Figure 4. A postoperative angiography showed no vascular lesions. Left anteroposterior internal carotid artery image (A). Internal carotid artery in the petrous segment without injury (B).

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