

9. DIFFUSE AXONAL INJURY IN A PATIENT WITH POLYTRAUMA



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Introduction. Diffuse axonal injury of the brain is primary diffuse traumatic effect, caused by mechanisms of impact and inertial dynamics. In more cases, the patients are unconscious with minimal lesions visualized on the initial CT scans. MRI with sequences sensitive to hemorrhagic lesions/ cytotoxic oedema and is able to visualize DAI by detecting even microscopic amounts of blood or nonhemorrhagic lesions secondary to axonal strain in deep white matter.

Case statement. Patient P.R. 30 y male, no relevant medical history, collision accident polytrauma (as driver), medical assistant in Emergency room. He was found scoring 5 points on GCS, with symmetrical and reactive pupils, hypothermic. He was then intubated and transported to Emergency where the CT-trauma protocol was performed. Diagnosis on admission: Polytrauma following collision road accident, TCC with accumulation bleeding at the level of the brain scythe, Intracerebral contusions, Diffuse cerebral oedema, Acute respiratory failure, Pulmonary contusions bilateral, Anemia. ISS: 43 points, APACHE II: 11 points, SOFA: 7 points. The patient is admitted to the ICU comatose, under continuous sedation, afebrile, intubated and mechanically ventilated, hemodynamically stable, with urine output. Admission screening tests were sampled, started specialized treatment under monitoring and support of the vital functions. Evolution: On Day 1-3, patient under continuous sedation On Day 4-7, altered neurological status On day 8, the patient begins to open his eyes spontaneously, exhibits tonic-clonic movements and demonstrates brainstem reflexes. On the 10th day, tracheostomy is performed. On day 12, the patient has anisocoria without evidence of any significant lesions on CT scans, further MRI highlights multiple areas with diffuse axonal lesions. Following very slow progress, the patient watches and follows with his eyes, spontaneously moves his right hand, is weaned from the ventilator and continues the respiratory and motor physiotherapy. On day 30, He is maintained swallowing deficient, and we decided to perform a gastrostomy On day 70, the patient with improved general condition, afebrile, stable respiratory and circulatory, conscious, spontaneously moves all limbs, is transferred to the Neurology Department for further treatment and medical recovery.

Discussions. Although the neurological status was uncertain for a very long time and the emotional impact for the whole staff was important, for us, our colleague is a real fighter. Despite the large duration of initial hospitalization followed by multiple admissions in recovery clinics, now the patient is conscious, cooperative, and reintegrated into society.

Conclusion. The treatment adapted to the patient's needs, early neuromodulator and neurotrophic treatment, intense physiotherapy at the patient's bedside, attentive nursing and family involvement gave the patient an extra chance.