

Images

Fracture of the Odontoid Bone

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Cervical spine fractures are an important cause of death or neurological damage. Fractures in the odontoid bone make up between 10% and 15% of all fractures in the cervical spine. Diagnostic suspicion and careful management of the cervical spine at emergency (including pre-hospital care) are fundamental in reducing the mortality rate of this injury.

This is the case of a 32-year-old male who suffered a fall from a bicycle. He was found along the roadside, with symptoms of serious cranial injury, in coma (Glasgow:3), and was therefore intubated and taken to hospital. Initial radiographic studies performed indicated a fracture of the odontoid bone with discrete retrolisthesis C1-C. A cervical

CT scan was performed with digital reconstruction (Fig. 1) and MRI.

In our area, the main cause of fractures of the odontoid bone are traffic accidents, followed by accidental falls and sports injuries. Flexion is the most frequent mechanism affected. Depending on the pattern of the fracture, there are three types. Type I affects the end of the apophysis, which is the most stable and does not usually require surgery. Type II injuries, the most frequent, cut across the base and are the most unstable; type III affect the body of the axis. Treatment can be surgical or conservative (immobilization with halo or Minerva type neck brace), depending on the stability and pattern of the fracture.

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Figure 1. Sagittal reconstruction of cervical spine showing odontoid bone fracture at base with discrete displacement.