

# Halovest in a C1 Fracture - Case Report

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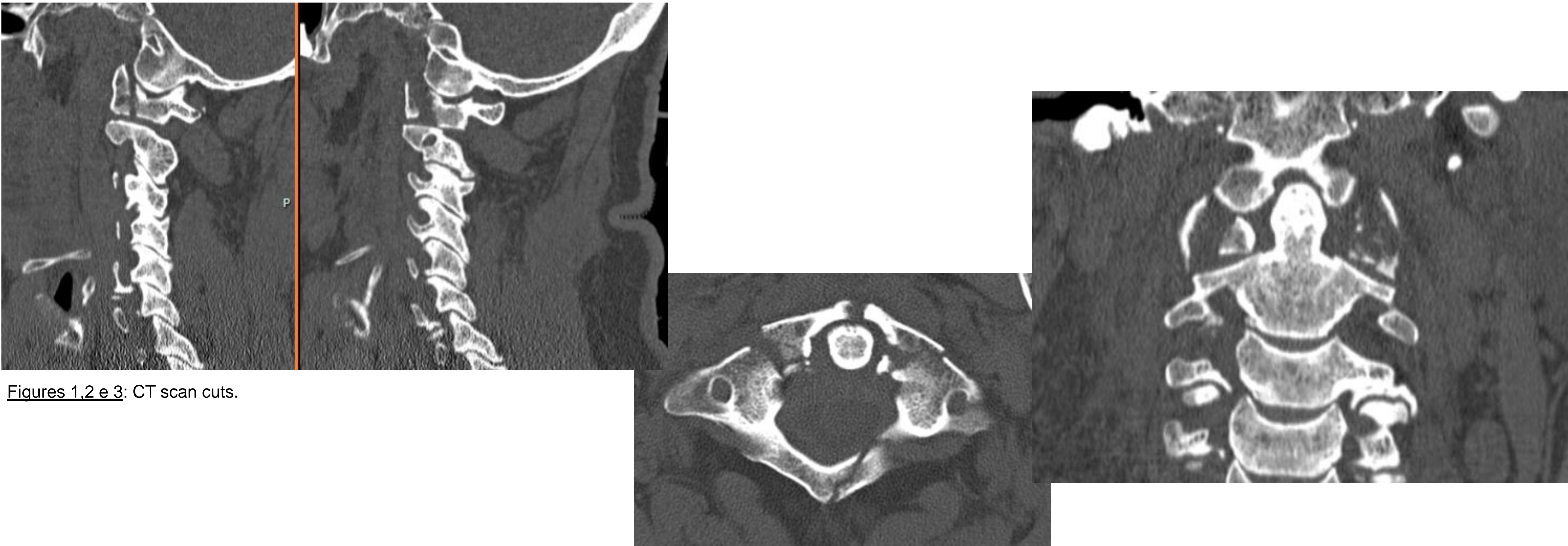


## INTRODUCTION

C1 fractures represent 2-13% of cervical fractures. The diagnosis may not be immediate, since these injuries often do not show neurological changes or clear radiographic evidence. A preponderance of males is described, with an average age of diagnosis of 64 years. Most isolated C1 lesions and stable C1 / C2 lesions are treated conservatively.

## CASE REPORT

61-year-old man, victim of traumatic head injury due to a tree branch.  
History of hypertension, hyperuricemia, aortic and mitral regurgitation.  
Neurological examination without changes. TC CE without changes. Imaging and clinical screening of the remaining spine without changes.  
Cervical CT scan showed a burst fracture of C1, without significant deviation of the lateral masses. Increase in C2 pre-vertebral space> 6mm.



Figures 1,2 e 3: CT scan cuts.

## EVOLUTION AND RESULTS

The patient kept a Philadelphia collar and spent two days of close surveillance in the intermediate care unit, where he repeated the cervical CT – Without further changes.  
Conservative treatment with a Halovest was chosen based on the fracture and the medic history of the patient.



Fig 4 e 5: Radiographs post-Halovest



Fig 6: Satisfied patient

The patient was observed regularly, with clinical and radiographic control. A new CT scan was performed at 3 months, with signs of consolidation, with no evidence of fracture deviation or neurological worsening. The Halovest was substituted with a Philadelphia collar for 2 more months.

## DISCUSSION

There are no defined guidelines for the treatment of burst atlas fractures , the decision being based on neurological status and stability criteria. Conservative treatment with rigid collars, *halovest* and traction is usually sufficient, with surgical treatment reserved for cases with neurological damage and major instability, usually with occipito-cervical instrumentation. A relative indication not universally accepted is the bilateral deviation of the lateral masses greater than 6.9mm. Patients with conservative treatment should be followed closely, with frequent clinical and radiological assessments, and if, after 3 months, instability persists, surgical treatment must be considered.  
*Halovest* reduces up to 75% of cervical mobility, achieving greater restrictions than rigid collars, being preferred for high cervical injuries. It is not a system free of negative points, namely difficult to tolerate, risk of infection of the pins, pressure ulcers and disassembly, and should be placed only in selected patients.

## CONCLUSÃO

C1 burst fractures are a complex group of cervical injuries whose diagnosis and treatment requires a holistic approach. Tight follow-up by the surgeon is mandatory during conservative treatment to check for stability and additional deformities that may raise the need for surgery.  
We bring a case that intends to underline the applicability of the *Halovest* in these types of injuries.

