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Case Report

# Retro-Odontoid Pseudotumor due to Rheumatoid Arthritis Pannus and its Craniocervical Instability

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## Abstract

This study explores the manifestation of retro-odontoid pseudotumor associated with rheumatoid arthritis (RA) pannus, emphasizing its impact on craniocervical instability. The condition involves non-neoplastic tissue proliferation near the odontoid process, potentially leading to medullary compression and severe neurological complications. The study presents a clinical case involving a 72-year-old female patient with RA, demonstrating the efficacy of transoral microsurgical resection for anterior decompression and subsequent occipitocervical fixation. The case highlights the importance of immediate medullary decompression, resolution of etiological instability, and histopathological analysis for definitive diagnosis in managing retro-odontoid pseudotumor associated with RA pannus. The findings suggest that traditional fixation methods, particularly cage stand-alone, may be insufficient for achieving the required cervical stability in RA patients, raising important considerations for therapeutic interventions.

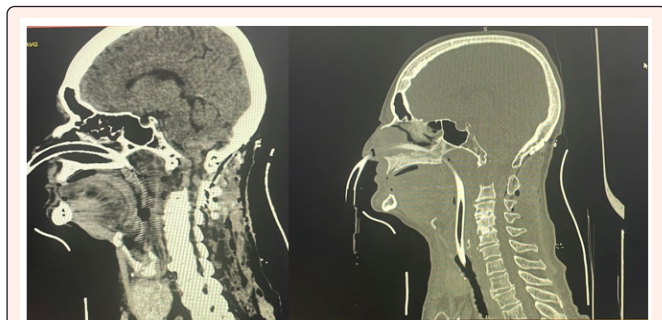
## Introduction

Retro-odontoid pseudotumor is characterized by non-neoplastic tissue proliferation adjacent to the odontoid process, classically attributed to craniocervical instability, as previously described by Goel et al. It can lead to medullary compression, culminating in myelopathy and even sudden death. The differential diagnosis includes meningioma and chordoma; hence, biopsy is indicated in cases of suspicion. This study aims to demonstrate an effective therapeutic alternative through the presentation of a clinical case and a relevant literature review, allowing for immediate medullary decompression, resolution of the etiological instability underlying the described pathology, and obtaining material for histopathological analysis and definitive diagnosis [1-4].

## Case Report



Figure 1: MRI sagittal view, T2w. 3mo pre op. Patient showed a retro odontoid mass causing spinal compression.



**Figure 2:** Post-operative CT Scan, sagittal View. After trans oral odontoidectomy, lesion resection and occipitocervical fixation.

Case Presentation: Patient D.S., 72 years old, female. She presented with Grade IV tetra paresis in June 2021, underwent C3-C4 and C4-C5 discectomy with cage stand-alone arthrodesis at another facility. She initially experienced partial improvement, followed by worsening with an aggravation of tetra paresis, now Grade III, functional loss, and NURICK Grade V involvement. Magnetic Resonance Imaging revealed a calcified retro-odontoid mass with medullary compression. On 04/11/22, she underwent transoral microsurgical resection of the retro-odontoid pseudotumor for anterior decompression, biopsy material removal, histopathological confirmation, and subsequent occipitocervical fixation. In the late postoperative period, the patient showed gradual improvement in motor function, achieving Grade IV strength in the upper limbs and unassisted ambulation (NURICK Grade II). The patient reported mild dysphagia and hoarseness. Subsequently, histopathological results confirmed rheumatoid pannus, and the patient was referred to a rheumatology service [5-9].

## Conclusion

In light of the considerations in this study, a satisfactory outcome was demonstrated through medullary decompression associated with occipitocervical fixation for correction of the instability, the etiopathogenic factor of the pseudotumor. Additionally, we raise the question that, in patients with Rheumatoid Arthritis, fixation using cage stand-alone may be insufficient to achieve the necessary cervical stability to prevent the progression of degenerative disease.

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