



Case Report

Retro-odontoid pseudotumor (pannus) with Forestier's disease presenting with severe tetraparesis: A case report and literature review

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ABSTRACT

Background: A retro-odontoid pannus is often associated with inflammatory diseases. It can also have a noninflammatory cause due to chronic atlantoaxial instability.

Case Description: Here, we report a patient with diffuse idiopathic skeletal hyperostosis and a severe noninflammatory retro-odontoid pannus who rapidly improved after posterior craniocervical decompression and arthrodesis.

Conclusion: Transoral resection of the pannus, followed by posterior stabilization, is a common treatment for this condition. The pannus can, however, also reduce after posterior stabilization alone (e.g., craniocervical decompression).

Keywords: Craniocervical – Posterior stabilization, Decompression, Pannus

INTRODUCTION

The retro-odontoid pseudotumor or pannus is often associated with inflammatory diseases.^[1,3,6] It is typically located between the dens and the anterior arch of the atlas. It can also be due to noninflammatory causes (e.g., chronic atlantoaxial instability).^[1-6]

Typically, these lesions are treated utilizing combined transoral resection of the pannus, followed by posterior stabilization.^[4] However, some report reduction and even disappearance of the pannus can occur following only posterior stabilization.^[1-6]

Here, we present a 79-year-old male and reviewed the literature documenting that diffuse idiopathic skeletal progressive tetraparesis attributed to a noninflammatory retro-odontoid pannus rapidly improved following posterior decompression/fusion alone.

CASE REPORT

History

A 79-year-old male presented with the acute onset of severe tetraparesis following minor trauma.

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The neurological examination showed a left hemiplegia (MRC 2/5) with the right-sided neurological weakness without sensory abnormalities. The Preoperative Nurick Grade was V.

The CT [Figure 1a and b] and MR [Figure 2] studies showed cervical ankylosis with a severe retro-odontoid pannus and craniocervical stenosis with myelomalacia. There was also a fracture of the anterior syndesmophytes at the C2–C3 level (e.g., indicative of diffuse idiopathic skeletal hyperostosis [Forestier disease]).

Surgery

The patient underwent an urgent posterior C0–C5 arthrodesis with C1 and C2 laminectomy and bilateral lateral mass screws at C1, C3, C4, and C5 levels and with bilateral pars screws at C2 [Figure 3].

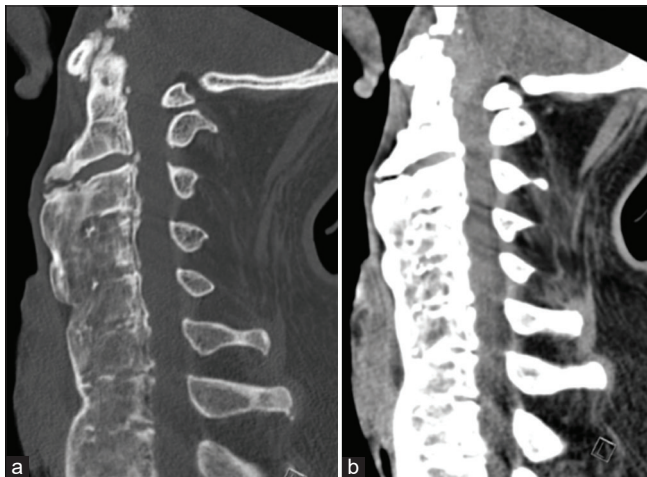


Figure 1: (a and b) CT-image of the craniocervical region showed a severe cervical ankylosis with craniocervical stenosis and with a fracture of the anterior syndesmofyte at the C2–C3 level.



Figure 2: MR-image of the craniocervical region demonstrates a severe retro-odontoid pannus and subsequent craniocervical stenosis with myelomalacia.

The procedure went uneventful.

The postoperative course was uneventful and the neurological symptoms improved rapidly with normalization of strength in the right arm and leg and a clear improvement in the left arm and leg (MRC 4/5). Within 3 weeks, he was able to walk independently (i.e. Nurick Grade II).

Postoperative imaging [Figure 4] showed an excellent craniocervical decompression with pannus regression and adequate fusion.

DISCUSSION

Retro-odontoid pseudotumors have also been reported in noninflammatory conditions such as post-traumatic pseudoarthrosis of the odontoid process, unstable odontoid fractures, os odontoideum, cervical

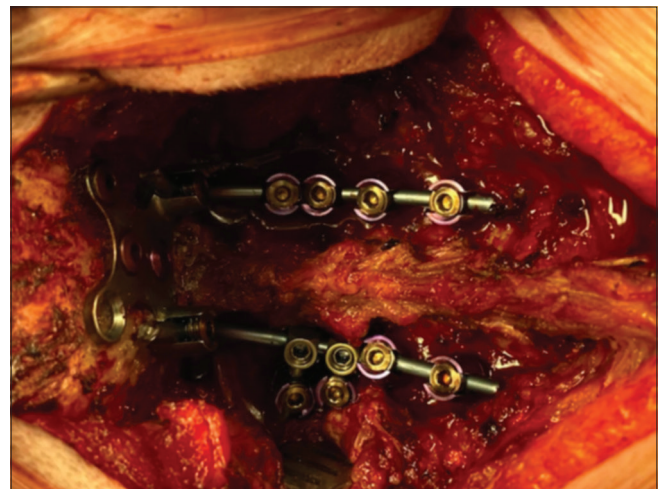


Figure 3: Image of the posterior C0–C5 arthrodesis with C1 and C2 laminectomy with bilateral lateral mass screws at C1, C3, C4, and C5 and with bilateral pars screws at C2.

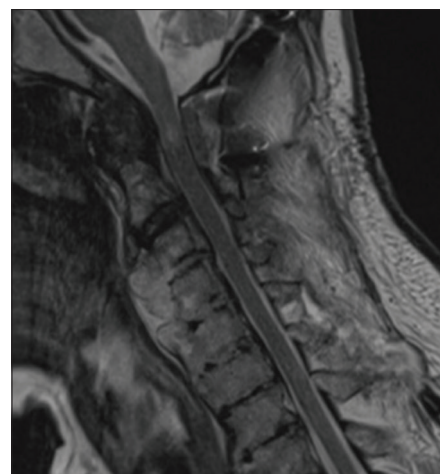


Figure 4: Postoperative imaging showed a good craniocervical decompression with a pannus in regression.

instability, long-term hemodialysis, and craniocervical malformations.

To date, transoral spinal cord decompression followed by posterior stabilization has been a widely accepted treatment. In the past years, however, several authors have reported a pannus reduction and even regression after a posterior atlantoaxial stabilization only.^[1,3-6]

Here, we describe a 79-year-old male who experienced a rapidly progressive tetraparesis due to a retro-odontoid pannus with diffuse idiopathic skeletal hyperostosis/ankylosis (Forestier disease) in combination with a fracture of the anterior syndesmophytes at the C2–C3 level.

The patient underwent an urgent C1 and C2 laminectomy with posterior stabilization alone (e.g., C0–C5 fusion). Postoperatively, he rapidly improved documenting that posterior management alone may be sufficient in these patients.^[1-6]

CONCLUSION

Craniocervical decompression and posterior stabilization resulted in pannus reduction and neurological improvement in a 79-year-old male.

Declaration of patient consent

Patient's consent not required as patients identity is not disclosed or compromised.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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