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Case Report

T11/T12 ossification of the yellow ligament contributing to thoracic myelopathy in patient with posterior fossa arachnoid cyst and acquired incidental Chiari I malformation/syrinx

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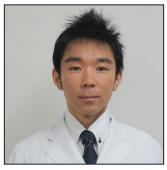

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Received : 24 April 2021
Accepted : 08 May 2021
Published : 31 May 2021

DOI
10.25259/SNI_404_2021

Quick Response Code:

ABSTRACT

Background: Thoracic ossification of the yellow ligament (OYL) may contribute to myelopathy. In the case presented, the patient additionally had a chronic posterior fossa arachnoid cyst with an acquired Chiari I malformation and cervicothoracic syrinx.

Case Description: A 40-year-old female with a posterior fossa arachnoid cyst found 17 years ago, and newly acquired Chiari I malformation (tonsils down 5 mm) with a C7-T5 syrnix, presented with the new onset of lower extremity myelopathy. The MR documented marked dorsolateral cord compression due to T11/T12 OYL. Six months following a laminectomy for resection of OYL, the patient was asymptomatic.

Conclusion: In patients presenting with the new onset of lower extremity myelopathy, evaluation of the complete neuraxis may be warranted. Here, the patient has an unchanged posterior fossa arachnoid cyst with an acquired Chiari I malformation/C7-T5 syrinx. However, the patient's symptoms were fully attributed to the MR-documented T11/T12 OYL that was successfully resected.

Keywords: Acquired Chiari malformations, Arachnoid cyst, Myelopathy, Ossification of the yellow ligament, Syringomyelia

INTRODUCTION

Thoracic myelopathy caused by thoracic spinal stenosis and ossification of the yellow ligament (OYL) is relatively rare and may be overlooked.[1-3]

Here, we present a 40-year-old patient with a 17-year history of a chronic posterior fossa arachnoid cyst and acquired Chiari I malformation/C7-T5 syrinx, whose acute thoracic myelopathy was attributed to the MR-documented T11/T12 OYL. Following a decompressive laminectomy, the patient experienced full symptom resolution.

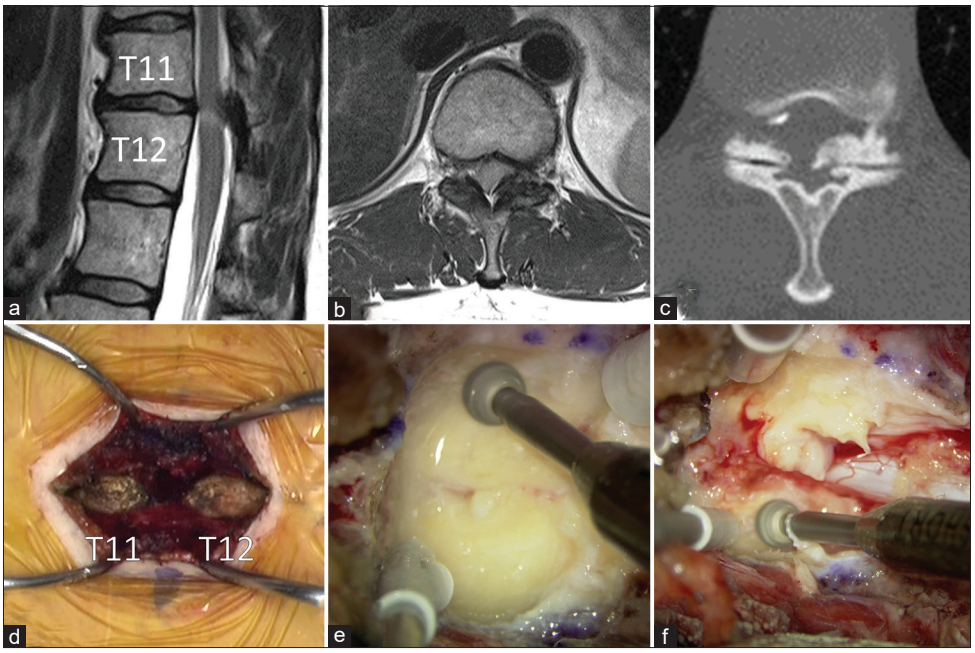

Figure 1: Pre- and intraoperative findings of T11/T12 ossification of the yellow ligament (OYL). (a-c) The lesion was hypointense on T2-weighted images (a and b) while the CT showed it was ossified (c). (d) The vertebral arches of T11/T12 were exposed. (e) Bilateral laminectomy of T11/T12 was performed, and a thick OYL was found. (f) The OYL was drilled thin and resected piece by piece, and the dura mater was confirmed.

CASE DESCRIPTION

History

A 40-year-old female presented with thoracic myelopathy of 4 months' duration (i.e. mild bilateral lower extremity weakness, left leg hyperreflexia, and decreased light touch/pain perception at/below T11).

When the MR showed T11/T12 OYL resulting in cord compression (i.e. the lesion was hypointense on T2-weighted images while the CT showed it was ossified), the patient successfully underwent a bilateral laminectomy of T11/T12 with progressive resolution of the myelopathy over 6 postoperative months [Figure 1a-f]. Of interest, the brain CT and brain/cervical MR studies additionally demonstrated a posterior fossa arachnoid cyst (i.e. unchanged over a 17 year period), with an acquired Chiari I malformation (cerebellar tonsil descent 5 mm) with C7-T5 syrinx [Figure 2a and b].

DISCUSSION

In this case, the patient's new acute symptoms of thoracic myelopathy were attributed to the T11/T12 OYL. As the patient's predominant symptoms consisted of lower extremity myelopathy attributed to the MR-documented T11/T12 OYL, the patient successfully underwent a decompressive T11/T12 laminectomy. Notably, the CT and MR findings of a posterior fossa arachnoid cyst (unchanged over 17 years), an acquired Chiari malformation[4,5] and C7-T5 syringomyelia were asymptomatic incidental findings.

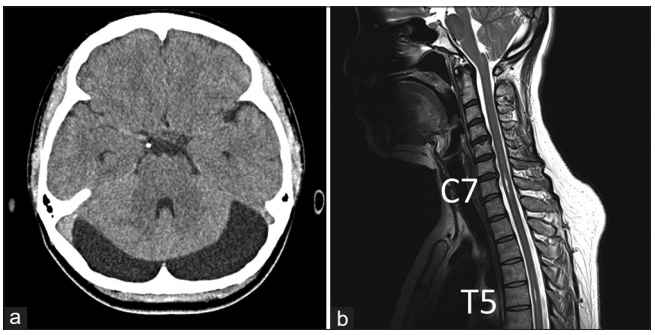

Figure 2: The brain CT and brain/cervical MR studies demonstrated a posterior fossa arachnoid cyst (a), with an acquired Chiari I malformation with C7-T5 syrinx (b).

CONCLUSION

In patients presenting with the new onset of lower extremity myelopathy, evaluation of the complete neuraxis may be warranted. We successfully diagnosed and treated T11/T12 OYL contributing to thoracic myelopathy in patient with posterior fossa arachnoid cyst and acquired Chiari malformation/syrinx.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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How to cite this article: Aono T, Ono H, Tanishima T, Tamura A, Saito I. T11/T12 ossification of the yellow ligament contributing to thoracic myelopathy in patient with posterior fossa arachnoid cyst and acquired incidental Chiari I malformation/syrinx. Surg Neurol Int 2021;12:246.