Thoracic arachnoid cyst made symptomatic by demyelination

Authors: Anan Shtaya, MD, MRCS, PhD,1,2 Anastasios Giamouriadis FRCS (SN)2, Matthew JN Crocker FRCS (SN)2, Andrew J Martin FRCS (SN)2

1 Neurosciences Research Centre, St George’s University of London, London, UK.
2 Atkinson Morley Wing, Neurosurgery, St George’s University Hospital, London, UK

Title character count: 58

Number of references: 2

Number of tables: 0

Number of figures: 2

Word count paper: 216

Corresponding Author:
Anan Shtaya
Neurosciences Research Centre,
Molecular and Clinical Sciences Research Institute
St George’s University of London
London
SW17 0RE
UK
E-mail ashtaya@sgul.ac.uk.

Author Disclosures:
Anan Shtaya-Reports no disclosures.
Anastasios Giamouriadis-Reports no disclosures.
Matthew Crocker- Reports no disclosures.
Andrew Martin- Reports no disclosures.
A 40-year-old-woman presented with one-week of ascending numbness and weakness in her legs, paraesthesia in the arms and 1 week of constipation. There was no history of trauma or previous neurological symptoms. On examination, she had a spastic paraparesis (4/5 overall), a T5 sensory level, and additional altered sensation in her hands with hyperreflexia in all limbs and positive Hoffman signs bilaterally. MRI revealed a T4-8 dorsal arachnoid cyst causing spinal cord compression, with additional hyperintense cord lesions at C2 and multiple brain lesions suggestive of demyelination (Figure 1). The upper limb neurological deficits are likely due to C2 spinal cord lesions. The cyst was fenestrated through a single level thoracic laminectomy (Figure 2) and a short course of Dexamethasone (4mg bd for 3 days) was given. CSF analysis demonstrated faint oligoclonal bands. The patient’s lower limb weakness and sensory deficits improved, and she was discharged home 3 days later. Most spinal arachnoid cysts are asymptomatic and discovered incidentally. The two pathologies might be a coincident finding. However, CSF dynamics may change in patients with demyelination. Altered CSF flow and velocity measures were associated with worsening clinical and MRI findings in a group of MS patients. Therefore, we propose that our patient had a static compensated cyst made symptomatic by demyelination as an additional CNS lesion.

References


Figure legends

Figure 1. A Sagittal T2W-MRI image demonstrates the arachnoid cyst (arrow), B An axial T2W-MRI image at T6 shows the cyst with flattening of the cord (arrow), C Sagittal T2W-
MRI image demonstrates the C-spine signal change (arrow), D An axial FLAIR-MRI image demonstrating the right corona radiata lesion (arrow).

Figure 2. Sagittal T2W-MRI image demonstrates the decompressed thoracic spinal cord.
Highlights:

Manuscript title: Thoracic arachnoid cyst made symptomatic by demyelination

- A static compensated thoracic arachnoid cyst made symptomatic by demyelination as an additional CNS lesion.
Abbreviation:

Magnetic resonance imaging: MRI
T2 weighted: T2W
T: Thoracic
C: Cervical
bd: twice a day
CNS: Central nervous system.
CSF: Cerebrospinal fluid.
MS: Multiple sclerosis.