

Anterior Cervical Arachnoid Cyst with Rapid Progressive Quadriparesis in a Pregnant Woman: A Case Report

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Abstract

Arachnoid cyst in the spine frequently arises from posterior to the spinal cord in the thoracic region. Anterior cervical arachnoid cyst is a rare entity of which only a few cases have been reported in the literature. Herein, we present a 26-year-old pregnant woman at 22 weeks of gestation with a history of rapid progressive quadriparesis that harbors a large ventral located cervical arachnoid cyst. She emergently underwent posterior laminectomy and cyst wall fenestration. Postoperatively, her muscles strength was fully recovered without any neurologic deficit.

Keywords

- ▶ arachnoid cyst
- ▶ cervical
- ▶ pregnant
- ▶ quadriparesis

Introduction

Anterior cervical location of arachnoid cyst is rare, and only few cases have been reported in the literature.^{1–14} It commonly arises from posterior to the spinal cord in the thoracic spinal region,² and those arising at the anterior cervical location are distinctly rare.^{1–3,15,16} Intradural spinal arachnoid cysts appear to result from an alteration of the arachnoid trabeculae. The majorities of them are idiopathic, whereas previous trauma or arachnoiditis have been anecdotally described.^{17,18} Treatment of dorsally located arachnoid cyst is laminectomy or laminotomy through a posterior cervical approach.¹⁹ According to the case reports and other literature, treatment of ventrally located cervical arachnoid cysts is both posterior laminectomy and ventral corpectomy.^{1–12}

In this case report, we present an anteriorly located cervical arachnoid cyst in a pregnant woman with acute quadriparesis who was operated via posterior laminectomy and fully recovered her muscular strength without neurologic deficit or surgical complication.

Case Presentation

A 26-year-old pregnant woman at 22 weeks of gestation was admitted in our clinic with a history of weakness in upper

and lower extremities that progressed from 2 weeks ago. At the time of hospital admission, her examination revealed quadriparesis with 4/5 motor power in proximal and distal muscles of upper and lower extremities. Cervical magnetic resonance imaging (MRI) showed a ventrally located lesion behind C4 and C5 vertebral body with signal intensity similar to cerebrospinal fluid (CSF) with no enhancement in contrast administration (▶ **Fig. 1**). She was taken up for an emergency surgery because she developed rapid deterioration of power from 4/5 to 2/5 during the day of admission.

She underwent a standard laminotomy of C4 and C5 and a partial facetectomy of C5. While positioning the patient in prone position, precautions were taken to avoid any pressure on abdomen. After laminotomy, dura matter was opened from midline with minimal manipulation of cervical cord from lateral aspect, subsequently dentate ligament was cut and arachnoid cyst wall was exposed from space between the C4 and C5 rootlets. After resection of lateral wall of cyst, it was drained and cord decompression was achieved.

Within a few days of surgery, power in her limbs improved to 5/5. The patient became symptom free on long-term follow-up. Pathologic report from the cyst wall confirmed the diagnosis of arachnoid cyst.

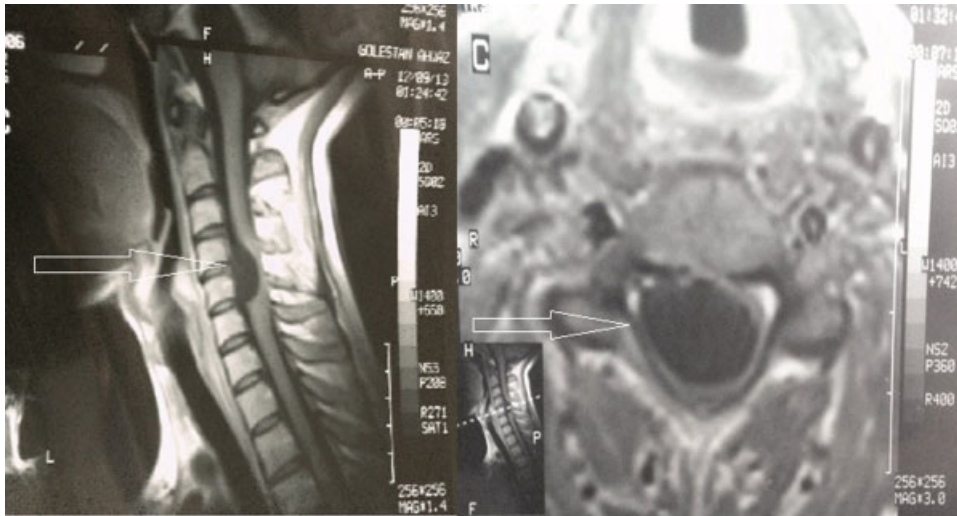


Fig. 1 T1 with contrast administration (axial and sagittal view).

Discussion

Anterior cervical spinal arachnoid cysts are relatively uncommon lesions that may be intradural or extradural. It is well known that the majority of the arachnoid cysts are located in the dorsal thoracic spine. Only a few cases of anteriorly located arachnoid cyst have been reported.^{1-14,20,21}

Three cases reported with the arachnoid cyst located at the anterior cervical have been treated with anterior corpectomy and reconstruction.^{13,14,22} One case was operated through the partial median corpectomy for C2-C3 intradural arachnoid cyst.¹⁴

We reported a rare case of anteriorly located arachnoid cyst in a pregnant woman, who developed acute-onset quadriplegia. Similar case has never been reported in the literature. We postulate that pregnancy might have been a factor in causing increment in cyst size.

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