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Meningocele Mimicking A Mass in the Lung: A Case Report

Akciğerde Kitle Görünümü Veren Meningosel: Olgu Sunumu

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Abstract

Spinal meningocele refers to the herniation of the sac containing the dura and arachnoid membrane through a vertebral column defect or a foramen, they most frequently occur in the posterior and in the lumbosacral region. On imaging an anterior spinal meningocele will resemble a posterior mediastinal mass, but since these abnormalities are sacs filled with cerebrospinal fluid, they may appear on imaging as cystic structures connected to the vertebral column. In the presented case, a lesion that resembled a mass in the lung was identified as meningocele based on detailed imaging and the opinion of the neurosurgeon.

Keywords: *Thoracic meningocele, lung mass, herniation.*

Öz

Spinal meningosel, dura ve araknoid membranı içeren kesenin vertebral kolon defekti veya bir foramen yoluyla herniasyonudur. Bunlar en sık posteriorda ve lumbosakral bölgede bulunur. Görüntülemede anterior spinal meningosel, posterior mediastinal kitle gibi görünecektir. Bu anormallikler beyin omurilik sıvısı ile dolu keseler olduğundan görüntülemede vertebral kolon ile iletişim halinde kistik yapılar olarak görünebilirler. Olgumuzda akciğerde kitle görüntüsü veren lezyonun ayrıntılı görüntüleme ve beyin cerrahi görüşü ile meningosel olduğu dikkat çekmiştir.

Anahtar Kelimeler: *Torasik meningosel, akciğerde kitle, herniasyon.*

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The initial evaluation of a suspicious mediastinal mass should include a detailed history and physical examination supported by laboratory tests and imaging, which may help support the diagnosis (1,2). In some cases, these will be enough to make a possible diagnosis and to guide treatment, while in other cases a tissue biopsy may be necessary to confirm the clinical suspicion before establishing a treatment plan.

Spinal meningocele, most commonly observed in the posterior and lumbosacral region, is a vertebral column defect of the sac containing the dura and arachnoid membrane or herniation through a foramen (1,3). Commonly found masses in the posterior mediastinum other than thoracic meningoceles include neurogenic tumors such as neurofibromas, enterogenous cysts, neuroblastomas and ganglioneuromas, and malignancies such as Ewing's sarcoma, rhabdomyosarcoma and lymphoma.

CASE

A 43-year-old male patient was admitted to the Chest Diseases outpatient clinic with a complaint of cough. His medical history included a traffic accident in 2007 and no known illness. Detailed anamnesis and examinations were requested due to opacity resembling a mass in the left apex identified from a chest X-ray (Figure 1), while WBC, CRP and sedimentation values were normal.

The patient had no chest pain, hemoptysis or back pain, and was in good general condition, conscious, oriented, cooperative and with no additional pulmonary complaints. A thorax CT was performed (Figures 2a and 2b), and a suspicious mass lesion was identified associated with the medulla spinalis, as a result of which the patient was referred to the neurosurgery department. A contrast-enhanced thoracic MRI was performed (Figure 3) revealing lateral thoracic meningocele originating from the spinal canal in the left lung, and the patient was subsequently transferred to the neurosurgery department.

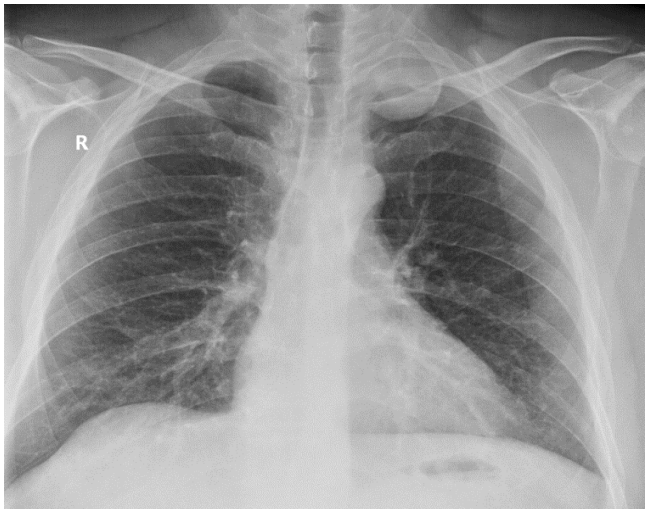

Figure 1: A mass in the left apex identified on chest X-ray

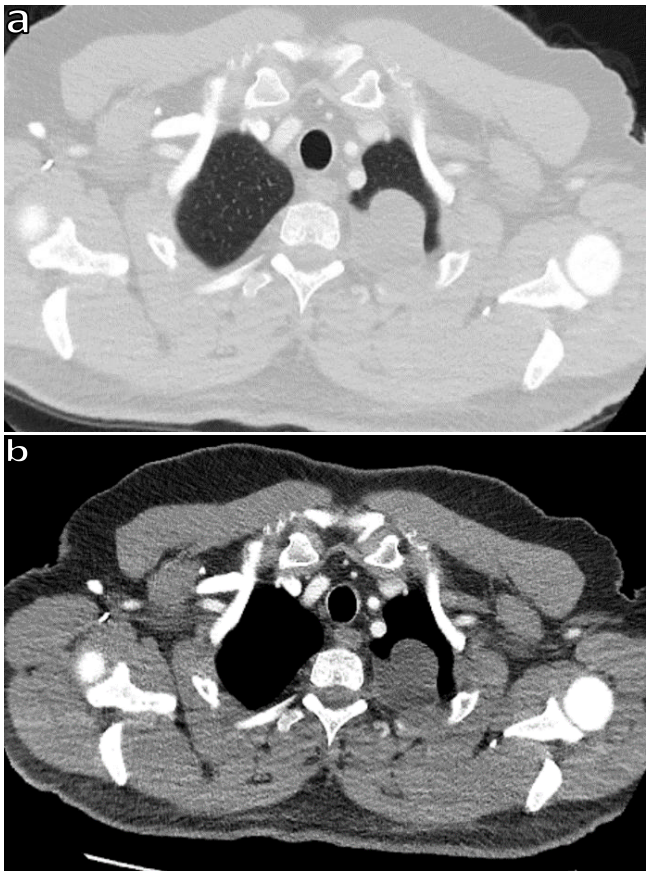

Figure 2a and b: Thoracic computed tomography revealing a mass associated with the medulla spinalis in the upper lobe of the left lung

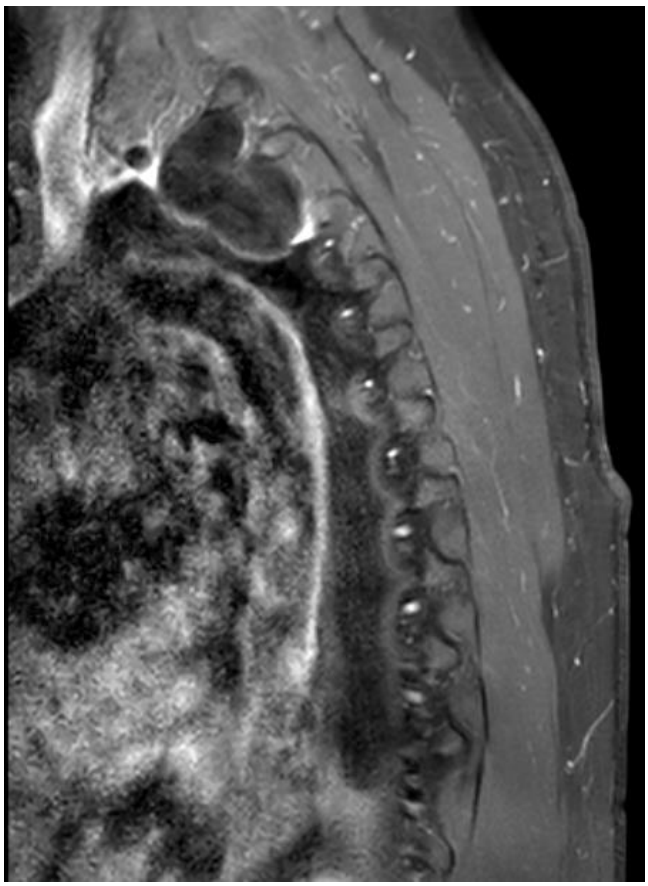

Figure 3: Thoracic magnetic resonance screening revealing smooth mass lesions that are hyperintense at T2W

DISCUSSION

Intrathoracic meningocele is a very rare pathology characterized by herniation of the thoracic meninges from the intervertebral foramen or eroded vertebrae, and occurs as a result of a lack of acquired/congenital development of the bone or dura (1). The lesion is associated with neurofibromatosis in approximately 64% of cases (3).

A syndrome involving neurofibromatosis, kyphoscoliosis and intrathoracic meningocele has been described in a previous study, although intrathoracic meningocele can sometimes be observed in the absence of such lesions (4). Other lesions that expand the neural foramen should be considered in the differential diagnosis, as previous studies have reported malignant fibrous histiocytoma, tuberculous abscess, osteoblastoma, chondrosarcoma and malignant tumors of the lung expanding the neural foramens, as in cases of lateral meningocele.

Physical examinations should not only focus on areas directly related to the mediastinum, but should include also examinations of the head, neck, upper extremities, chest and abdomen, as well as all areas that may indicate lymphadenopathy.

Intrathoracic meningocele occurs equally in both sexes at all ages, but most commonly between the ages of 30 and 50 (1). The column can develop at all levels of the vertebral (1), and it has been reported that 52% of cases involve the right hemithorax and 48% the left hemithorax (4). In our case, the meningocele was located in the left hemithorax.

Some 60% of intrathoracic meningocele cases are asymptomatic, and the condition is often detected incidentally. Sometimes compression-related pain and dyspnea may develop (5). Asymptomatic cases should be followed up, and symptomatic and growing lesions should be treated surgically (3).

CONFLICTS OF INTEREST

None declared.

AUTHOR CONTRIBUTIONS

Concept - T.B., N.A., B.A., F.B.; Planning and Design - T.B., N.A., B.A., F.B.; Supervision - T.B., N.A., B.A., F.B.; Funding -; Materials - T.B., N.A., F.B., B.A.; Data Collection and/or Processing -; Analysis and/or Interpretation -; Literature Review - N.A., T.B.; Writing - T.B.; Critical Review - N.A., T.B., F.B., B.A.

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