Case Report / Olgu Sunumu
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Limbus Vertebra in the Thoracic Spine: A Case Report

Torasik Omurgada Limbus Vertebra: Bir Vaka Sunumu

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ABSTRACT

The limbus vertebra, first described by Christian Schmorl in 1927, is considered a variant of a normal vertebra in the literature. It is a triangular fragment of bone that separates from the anterosuperior corner of the vertebra and is usually discovered incidentally via X-ray. Typically, it is asymptomatic due to its location. A limbus vertebra can be mistaken for a fracture, discitis, Schmorl's node, or tumor, which may lead to unnecessary surgical intervention. Therefore, it should be included in the differential diagnosis, especially in patients with a history of trauma, when their clinical condition is assessed. Limbus vertebrae most commonly affect the lumbar spine and, less frequently, other regions of the vertebral column. In this case report, an incidental finding of a limbus vertebra in the thoracic spine in a 30-year-old female patient was presented.
Keywords: Limbus vertebra; thoracic vertebra; incidental findings.

ÖZ

İlk kez 1927 yılında Christian Schmorl tarafından tanımlanan limbus vertebra, literatürde daha çok normal vertebranın bir varyantı olarak değerlendirilir. Limbus vertebra, omurganın üst uç noktasından ayrılan trianguler kemik parçası olup radyolojik olarak genellikle tesadüfi olarak saptanır. Tipik olarak konumu nedeniyle semptom vermez. Limbus vertebra kırık, diskit, Schmorl nodülü veya tümör ile karıştırılabilir ve bu da gereksiz yere cerrahi müdahalelere sebep olabilir. Bu nedenle, hastaların kliniğini değerlendirirken, özellikle travma öyküsü olan bir hastada, ayırıcı tanıda akılda tutulması gerekir. Limbus vertebra en sık olarak lomber omurgayı ve daha az sıklıkla diğer omurga bölgelerini etkilemektedir. Bu vaka sunumunda, 30 yaşında bir kadın hastada torakal omurgada görülen tesadüfi olarak saptanan bir limbus vertebra sunulmuştur.
Anahtar kelimeler: Limbus vertebra; torasik vertebra; tesadüfi bulgular.

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INTRODUCTION

The limbus vertebra, first described by Christian Schmorl in 1927, is considered a variant of a normal vertebra in the literature (1-3). It typically involves the anterosuperior corner of a single vertebral body and consists of a triangular bone fragment that separates due to herniation of a portion of the nucleus pulposus through the ring apophysis during childhood or adolescence (4).

Limbus vertebra defects typically occur at the anterosuperior margin of the lumbar vertebrae. The inferior and posterior margins, as well as other regions of the spine, are less commonly affected (5). Cases involving the cervical vertebrae are very rare (6). In

uncommon instances, the limbus vertebra may affect the thoracic spine or the posteroinferior corner of the vertebral body (7). However, to our knowledge, only three cases of thoracic limbus vertebra have been reported in the literature (4,8). Therefore, the case presented here is significant because of its location in the thoracic spine. This case report aimed to present an incidental finding of a limbus vertebra in the thoracic spine.

CASE REPORT

A 30-year-old female patient presented to the Düzce University Faculty of Medicine Physical Medicine and Rehabilitation Outpatient Clinic with a 5-year history of low back pain. She had no history of trauma. Her pain was mechanical, without morning stiffness or nocturnal symptoms, and worsened with prolonged activity.

Her surgical history included an appendectomy, tonsillectomy, and one cesarean section. There was no family history of rheumatic diseases.

On physical examination, her muscle strength was normal. The straight leg raise, Lasegue, FABER, and FADIR tests were all negative. Lumbar movements were painful during flexion and lateral bending. The visual analog scale (VAS) score was 7/10 during movement and 5/10 at rest. Lumbar flexion was slightly limited at the end range (flexion: 80°, extension: 30°, lateral flexion: 30°). The thoracic range of motion was full and painless in all directions.

The modified Schober test measured 16 cm. Bilateral lumbar paravertebral muscle spasms were noted. The range of motion of the hips, knees, and ankles was full and painless. Reflexes were normoactive.

Owing to the patient's chronic symptoms, plain radiographs were obtained. Thoracic spine radiographs revealed a limbus vertebra at the anteroinferior aspect of the T10 vertebral body (Figure 1). This finding was confirmed by lumbar and thoracic MRI (Figure 2). Sacroiliac MRI was unremarkable. Additionally, a chest CT scan performed two years earlier, retrieved from the patient's hospital records, also demonstrated the same findings (Figure 3).



Figure 1. Lateral thoracic spine X-ray with a circle highlighting the limbus vertebra

Limbus vertebra at T10 was considered an incidental finding. For the management of low back pain, the patient was started on ibuprofen (400 mg twice daily) and tizanidine (2 mg three times daily). At the 10-day follow-up, her VAS score improved to 3/10 at rest and 5/10 during movement. A physiotherapy program, including hot packs, interferential current, and ultrasound therapy targeting the thoracolumbar region, was initiated. After 10 sessions, the patient's pain completely resolved, both at rest and during movement. At the 1-month follow-up, her condition remained stable.



Figure 2. T2-weighted MRI of the thoracic spine. The circle highlights the limbus vertebra, the arrow highlights the partially fused view of the T5 and T6 vertebrae from the posterior



Figure 3. Sagittal CT reconstructed scan of the bony algorithm of the thoracic spine demonstrating the limbus vertebra

DISCUSSION

Biomechanical factors such as genetic predisposition, developmental abnormalities, and participation in certain sports have been implicated in the etiopathogenesis of limbus vertebra. However, the underlying mechanisms remain incompletely understood (9). Two types of limbus vertebrae have been described: anterior and posterior. The anterior type is more common and typically asymptomatic. However, the incidence of disc disease is relatively high in patients with anterior limbus vertebrae, as it may contribute to early disc degeneration (8,10). Posterior limbus vertebrae are less common and may cause neurological symptoms and muscle spasms due to nerve compression (5,9,11).

Limbus vertebrae are frequently observed in patients with Scheuermann's disease and typically affect the thoracic or upper lumbar spine (6). In our patient, a thoracic limbus vertebra was identified in the absence of Scheuermann's disease. To date, only two studies have reported that the limbus vertebrae are located in the thoracic region (4,8). In the study by Swischuk et al. (8), thoracic limbus vertebrae were observed in 12- and 16-year-old female patients, both without Scheuermann's disease. In a case report by Yagan (4), a posterior limbus vertebra was identified in the lower thoracic spine of a patient, which differs from our case.

The limbus vertebrae can be misdiagnosed as vertebral fractures, discitis, Schmorl's nodes, or tumors, potentially leading to unnecessary surgical interventions (5,12).

The limbus vertebra is typically an incidental finding and, in most cases, is not the source of the patient's symptoms; therefore, it generally does not require treatment. However, it should be considered in the differential diagnosis, particularly in patients who present after trauma (5,13).

CONCLUSION

The limbus vertebra is typically an incidental finding identified via radiographic imaging. It is important for clinicians to recognize this anomaly, especially when performing the differential diagnosis of vertebral pathologies.

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