

LIMBUS VERTEBRA - A CASE OF MISTAKEN IDENTITY

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ABSTRACT

Usually limbus vertebrae are seen in the mid lumbar region. But occasionally these may occur in cervical region and can be mistaken for a fracture or infection. To the best of our knowledge this is the second reported case of a limbus vertebra in cervical region in a dental journal.

INTRODUCTION

Limbus vertebrae are normal variants in the vertebrae which are usually seen in the lateral cephalograms. A clinician who is unaware of this entity may misdiagnose it as a fracture. Therefore we discuss radiographic features and differential diagnosis of limbus vertebrae for better awareness and knowledge of this anomaly among the clinicians.

CASE REPORT

A 21 year old female patient reported at our department with a prescription for a panoramic radiograph. Panoramic radiograph (Fig-1) showed a small radiopacity in the cervical region at the level of C4 vertebra. Patient had no history of trauma and general examination did not reveal any systemic abnormality. A lateral skull radiograph (Fig-2) was advised which also showed a small radiopacity at the anterior-superior margin of fourth cervical vertebra. A provisional diagnosis of fractured cervical vertebra was made. After a detailed survey of literature and consultation with

other radiologists a final diagnosis of a limbus cervical vertebra was given.

DISCUSSION

Limbus vertebra was first described by Christian Georg Schmorl¹ in 1926 but there are very few reports of limbus vertebrae in cervical region². Limbus vertebra can occur due to intrabony herniation of disc material that usually affects the vertebral margins. It is the result of herniation of the nucleus pulposus through the ring apophysis prior to fusion isolating a small segment of vertebral rim (Fig-3). This apophysis remains separated from the vertebral body and can be easily identified. Limbus vertebrae can also occur due to a remote injury to the immature skeleton². In this case patient did not report of any history of trauma.

Normal intervertebral disc functions as a shock absorber. In areas of stress (lumbar and cervical region), the annulus fibrosis may tear allowing the nucleus to protrude forming a herniated or slipped disc.² This condition is identified due to the pain symptoms while limbus vertebrae are asymptomatic.

On radiographs, limbus vertebra characteristically appears as a radiopacity with its margins within the confines of vertebral bodies² as in this case. Based on radiographs alone diagnosis can be established but in some cases CT³, MRI⁴ or

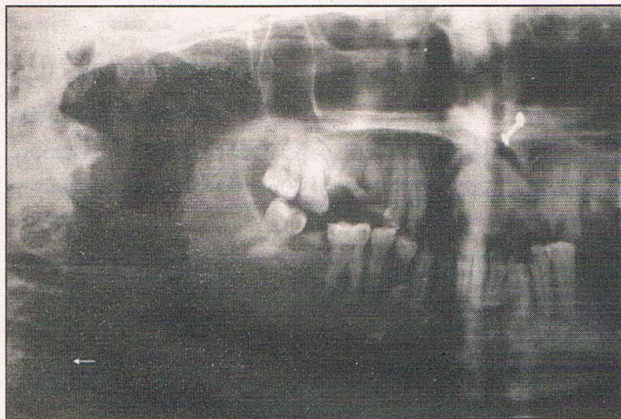


Fig-1: Panoramic radiograph showing a small radiopacity in the vertebral column in region of fourth cervical vertebra (arrow).



Fig-2: Lateral cephalogram confirming the presence of radiopacity (limbus vertebra) in the cervical region

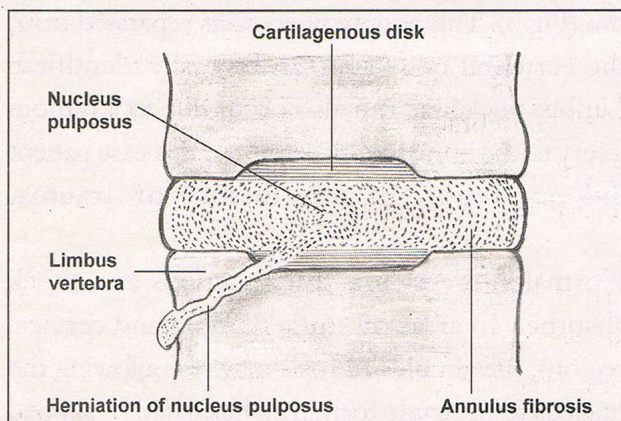


Fig-3: Line diagram depicting the structures of the vertebrae and explaining the etiology of limbus vertebra.

discography⁵ may be advised to confirm the diagnosis. In our case, diagnosis was made on the basis of characteristic appearance of limbus vertebra on both panoramic radiograph as well as lateral cephalogram.

Limbus vertebra may be mistaken for a fracture on radiographs⁶ in such cases CT can be advised to confirm the diagnosis.³ In our case the radiographic features were suggestive of limbus vertebra so no other investigations were advised.

Among the differential diagnosis we can consider Schmort's nodes and Scheurmann's disease. Schmort's node is due to central herniation in vertebral body while limbus vertebra is due to marginal herniation.² Scheurmann's disease is also called juvenile discogenic disease⁷ and mostly affects thoracic vertebra and lumbar spine instead of cervical vertebrae as in this case.

Limbus vertebra can be mistaken for calcified structures. Usually the calcified cartilages are more anterior and not in the vicinity of the vertebral margins as in this case of limbus vertebra. Metastatic calcifications occur in multiple sites and serum calcium levels are elevated. In this case there was only a single radiopacity in the cervical region so we did not investigate serum calcium levels. Occasionally, calcifications can occur in vertebrae secondary to arthritis and metabolic disorders⁸ but they are associated with systemic signs and symptoms for which general examination should be advised.

In conclusion, knowledge of this anomaly will help clinicians to identify this anomaly on radiographs without alarming the patients and avoid diagnostic procedures like CT, MRI or discography.

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