CMJ, 2024;46(3): 214-216
DOI: 10.7197/cmj.1453153

Cumhuriyet Medical Journal

| cmj.cumhuriyet.edu.tr | Founded: 2004 Available online, ISSN:1305-0028 Publisher: Sivas Cumhuriyet Üniversitesi

A Rare Cause of Pseudoarthrosis: Costal Exocytosis on Facing Surfaces of Each Other

Hüseyin Alper Kızıloğlu[1,a,*]
[1]*Department of Radiology, Tokat Gaziosmanpaşa University Faculty of Medicine, Tokat, Türkiye.*

**Corresponding author*

Case Report

History

Received: 15/03/2024
Accepted: 27/07/2024

ABSTRACT

Osteochondromas are common asymptomatic lesions. The development of chondroid malignancies from cartilage caps has rarely been described. Costal osteochondromas are relatively rare lesions. The incidence of osteochondromas in flat bones is approximately less than 5% of all osteochondromas. Osteochondroma originating from two adjacent ribs and forming a joint with each other is a phenomenon described for the first time in the literature.

Keywords: Costa, Rare, Exocytosis

Psödoartrozun Nadir Bir Nedeni: Birbirine Bakan Yüzeylerde Kostal Ekzositoz

Olgu Sunumu

Süreç

Geliş: 15/03/2024
Kabul: 27/07/2024

ÖZET

Osteokondromlar sık görülen asemptomatik lezyonlardır. Kıkırdak keplerinden malignitelerinin gelişimi nadiren tanımlanmıştır. Kostal osteokondromlar nispeten nadir görülen lezyonlardır. Yassı kemiklerde osteokondrom görülme sıklığı tüm osteokondromların yaklaşık %5'inden azdır. Bizim vakamız, komşu iki kostadan köken alan ve birbirleriyle eklem oluşturan bir olgudur ve literatürde ilk kez tanımlanmıştır.

Anahtar Kelimeler: Costa, Nadir, Ekzositoz

[a] *alperkzloglu@hotmail.com* *0000-0002-6921-8716*

How to Cite: Kızıloğlu HA. A Rare Cause of Pseudoarthrosis: Costal Osteochondroma on Facing Surfaces of Each Other, Cumhuriyet Medical Journal, 2014;46(3): 214-216.

Introduction

Osteochondroma is a relatively common lesion. It constitutes 10-15% of all bone tumors and approximately 35% of benign bone tumors.[1] It is usually asymptomatic and if isolated, the probability of malignant transformation is very low. Osteochondromas differ from other exocytosis because they have cartilage cap.[1] Osteochondromas develop in adolescence, but they generally do not increase in size with advancing age. They can be seen at any age and are usually detected incidentally. They are usually sporadic but may accompany diaphyseal achalasia and Trevor disease. [1] Malignant transformation develops from the cartilage cap and is approximately 1% in sporadic solitary osteochondromas. However, in case of heterogeneous multiple exocytosis, the malignancy rate is much higher (5%-25%).[2] Although it is usually asymptomatic, the symptom occurs due to mechanical effect and malignant transformation. Osteochondromas are generally observed in the appendicular skeleton and around the knee.[2] Although osteochondromas are common tumors of bones, they are rarely observed in the ribs.[3] Radiologically, osteochondromas are seen as sessile or pedunculated. The diagnosis comes to mind when the continuity of the cortex and medulla from the bone of origin is demonstrated. By demonstrating the cartilage cap of varying thickness, the diagnosis is made almost without the need for histopathological verification. Radiologically, attention is paid to the cartilage cap thickness and monitored. In the differential diagnosis, it is most often confused with osteophytic spur formation. In this case, attention is paid to the patient's age, other degenerative findings of the joint, and whether the protrusion is towards the joint. While osteochondromas grow opposite to the joint, osteophytic spur formations grow towards the joint.

Case Report

A 49-year-old male patient is undergoing a thorax computed tomography (CT) examination due to follow-up of a solitary pulmonary nodule. Incidentally, in the 7th-8th grade in the right hemithorax posterior. Exocytosis is observed on the sides of the ribs facing each other. Pseudoarticulation is observed at the level of exocytosis. The extension of exocytosis is towards the lung. The cartilage cap cannot be observed in the available images (Fig. 1). Upon patient request, the lesions are removed and osteochondroma is confirmed histopathologically. Although follow-up was recommended due to the patient's obsessive nature, the patient preferred to undergo surgery.

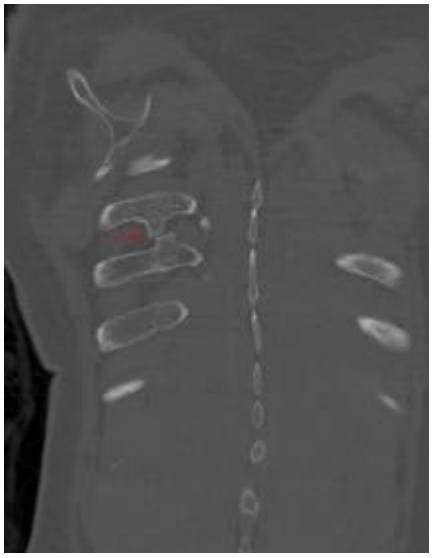

Figure 1.a. In the coronal CT image, exocytosis and pseudoarticulation are observed in the 7th and 8th ribs (red arrow).

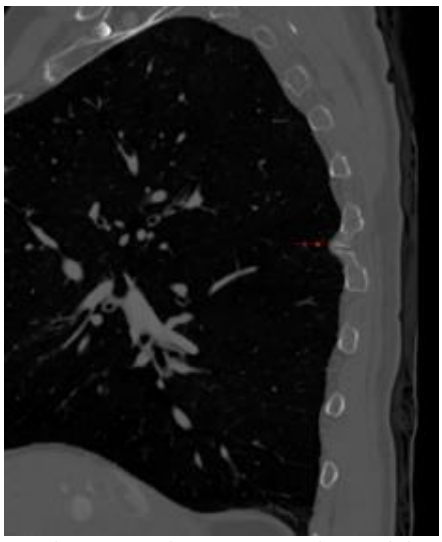

Figure 1.b. In sagittal sections, it is observed that both exocytosis is directed towards the lung (red arrow).

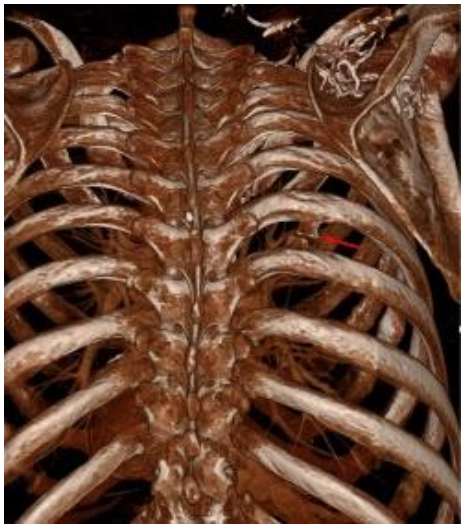

Figure 1.c. Lesions are observed in the 3D reformatted image (red arrow).

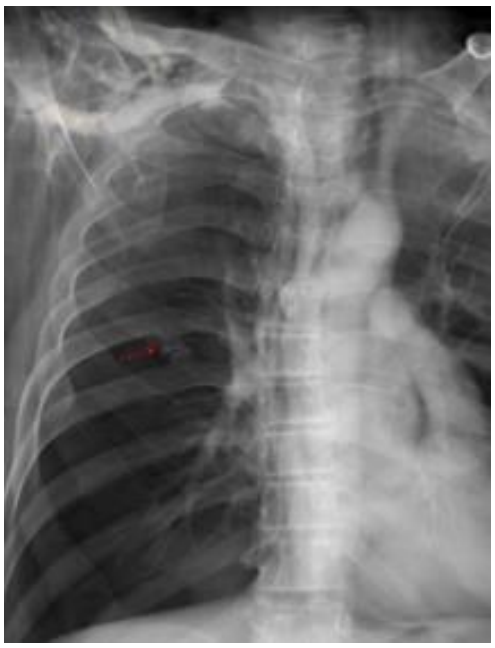

Figure 1.d. Lesions are observed in the X-ray section obtained from the CT image (red arrow).

Discussion

Around half of all primary chest wall tumors are non-cancerous, with osteochondroma (exostosis) being the most frequent type. These tumors are often without symptoms, but in rare cases, they can lead to pneumothorax, hemothorax, diaphragm rupture, empyema, and lung damage. Spontaneous pneumothorax is typically caused by the unprovoked rupture of a pulmonary bleb or by the pressure exerted by an osteochondroma on the lung tissue.

Although osteochondromas are relatively common lesions, costal osteochondromas are rare lesions. The probability of malignant transformation in osteochondromas is quite low. It is monitored radiologically by cartilage cap thickness. Their treatments are mostly related to the compression effect.

There are case reports about costal osteochondromas in the literature.[3,4,5] Studies in the literature are related to its size, its compression effect and the symptoms it creates. There are also cases in the literature that cause rare complications such as spontaneous pneumothorax.[6] Although our case is asymptomatic, it is valuable in that it presents an atypical morphology.

Conclusion

There are current publications about costal osteochondroma in the literature.[3,4] However, there is no publication in the literature where two osteochondromas form pseudoarticulation. We described the first case report.

References

1. WHO Classification of Tumours Editorial Board, Who Classification of Tumours Editorial. Soft Tissue and Bone Tumours. (2020) ISBN: 9789283245025 - Google Books
2. Lee J, Yao L, Wirth C. MR Imaging of Solitary Osteochondromas: Report of Eight Cases. AJR Am J Roentgenol. 1987;149(3):557-60. doi:10.2214/ajr.149.3.557 – Pubmed
3. Morales LC, Cardona Ortegón JD, Pinzón Valderrama BA, Jiménez Uribe AM, Mora Bendeck NG, Fierro Ávila F. Osteochondroma of the Rib: A Potentially Life-Threatening Benign Tumor. Cureus. 2023;15(9):e45449. Published 2023 Sep 18. doi:10.7759/cureus.45449
4. Tiwari C, Borkar N, Hussain N, Khubchandani N. Solitary osteochondroma of the rib: An unusual chest wall tumor in the pediatric age group. J Cancer Res Ther. 2023;19(5):1423-1425. doi:10.4103/jcrt.jcrt_679_21
5. Jilowa S, Paliwal P, Kapur A, Verma GC. Exostosis of Rib: Case Report of an Extremely Rare Giant Osteochondroma at an Unusual Site, Radiopathological Correlation with Brief Review of Literature. *Indian J Radiol Imaging*. 2021;31(3):740-744. Published 2021 Nov 13. doi:10.1055/s-0041-1736406
6. Lin CY, Chang CC, Chuang MT. Spontaneous Haemothorax Secondary to Rib Exostosis. *Heart Lung Circ*. 2017;26(8):e62-e63. doi:10.1016/j.hlc.2017.02.005