

BACK PAIN IN EMERGENCY DEPARTMENT DUE TO OSTEIOD OSTEOMA OF INFERIOR ARTICULAR FACET AT MIDNIGHT: A CASE REPORT

OSTEOİD OSTEOMA KAYNAKLI ŞİDDETLİ BEL AĞRISI NEDENİYLE GECE ACİLE BAŞVURU: OLGU SUNUMU

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SUMMARY:

A 20 year-old man was admitted to emergency department due to severe back pain at midnight. He had suffered from intense and knifelike pain which was usually worse at night for one year. Physical examination and plain radiography was normal. After 10 days, the patient referred to outpatient clinic of orthopedic surgery and bone scintigraphy was ordered. Bone scintigraphy had increased uptake level of L3. Osteoid osteoma was diagnosed at inferior articular facet by CT showed nidus. En block resection of osteoid osteoma and unilateral right side L2-L3 posterior stabilization was performed under general anesthesia. Patient's pain was relieved completely at latest follow up.

Key words: Back pain, osteoid osteoma, en block resection, posterior stabilization

Level of evidence: Case report, Level IV

ÖZET:

20 yaşında bir erkek hasta bir yıldır süren bel ağrısının şiddetlenmesi nedeni ile gece yarısı acil bölümüne başvurdu. Ağrısının gece ve hareket ile arttığını ifade etmekteydi. Fizik muayenesi ve çekilen direk grafisinde patoloji saptanmadı. Tam kan ve rutin biyokimya tetkikleri normal olarak değerlendirildi. Hastaya analjezik yapılarak istirahat önerildi. On gün sonra aynı ağrılarının şiddetlenmesi nedeniyle polikliniğimize gelen hastaya tüm vücut sintigrafisi yapıldı. Sintigrafide ağrı lokalizasyonunda uyan L3 vertebrada artmış tutulum gözlemlendi. Bunun üzerine yapılan tomografide L3 vertebranın inferior faset eklemine ortasında nidus ve etrafı sklerotik lezyon tespit edildi. Osteoid osteoma teşhisi konulan hasta genel anestezi altında enblok rezeksiyon ve tek taraflı posterior stabilizasyon uygulandı. Hastanın takiplerinde tamamen rahatladığı gözlemlendi.

Anahtar kelimeler: Bel ağrısı, osteoid osteoma, enblok rezeksiyon, posterior stabilizasyon

Kanıt Düzeyi: Olgu sunumu, Düzey IV

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INTRODUCTION:

Back pain is estimated to affect 80 % of individuals at some time in their life . Back pain may originate from soft tissues, bone and joints of the spine, as well as non-spinal tissues.. In the vast majority of sufferers the problem is self-limiting and even if the family doctor is consulted, imaging is not usually required. Some back pain, however, might be persistent and intensive, may cause to refer to emergency department.

Osteoid osteoma (OO) is small, benign, self-limited bone-producing lesion that is frequently localized in long bones and vertebra. Approximately 10–25 % of osteoid osteomas occur in the spine ^(1,2,3,7,11) and often is localized in the posterior elements (in the lamina, pars interarticularis, pedicle and superior articular proces) ^(4,5,12) but osteoid osteoma of inferior articular process is very rare in literature.

In this case we report a 20 year-old man referred to emergency department with severe back pain due to osteoid osteoma of L3 inferior articular process, who was threaded with en bloc excision and unilateral posterior fixation.

CASE PRESENTATION

A 20 year-old man was admitted to emergency department for nontraumatic severe back pain which was localized on the 3th lumbar spine at midnight. He had suffered from intense and knifelike pain which was usually worse at night for one year. In addition, the pain had been exacerbated with strong physical activity. He had marked spinal stiffness especially on the right side of the lumbar region but there was no neurological findings and valuable finding on the plain X-rays. His infection markers were negative. Due to severe pain 10 days later Tc 99 mDP scintigraphy was ordered.

There was focal increased uptake at the above mentioned localization in scintigraphy. The patient had some relief from the pain that afflicted him with salicylate usage. Thin (2mm) section CT scanning of the spine revealed a partially ossified central nidus surrounded by marked sclerosis on the right inferior facet process of L-3 vertebra (Figure-1). There was no other lesion in the full radiologic examination.

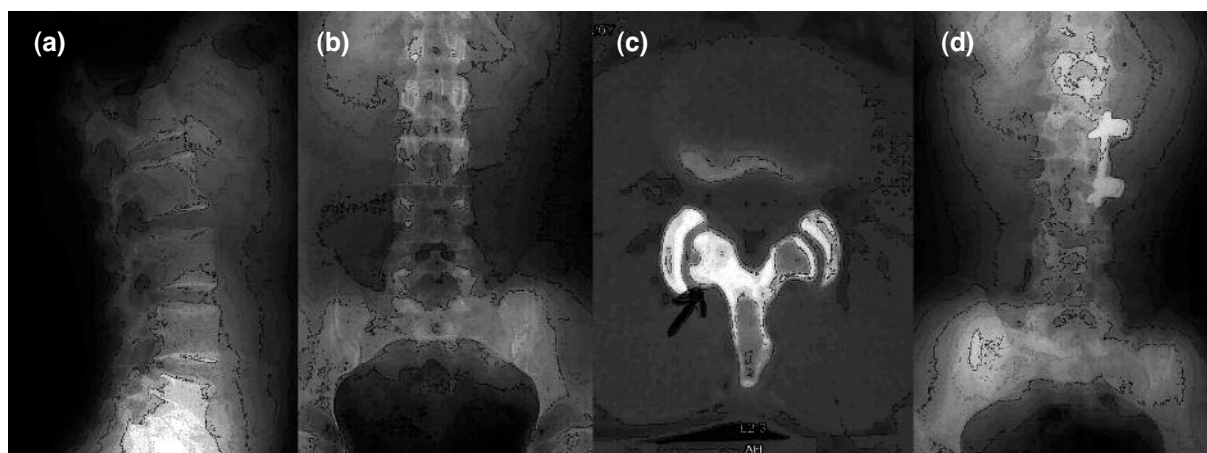


Figure-1. a. Preoperative PA and b. lateral radiographs, c. preoperative CT and d. postoperative radiographs of the patient with osteoid osteoma.

Because of involvement of the facet joint, tumor excision would cause instability. The patient underwent a posterior procedure, which consisted of en bloc resection of the tumor and posterior fixation with transpedicular screws and rod from L-2 to L-3 only on the right side. The fixation was augmented with autolog local bone graft. Histological examination confirmed the lesion to be an osteoid osteoma. After a week from surgery the patient was discharged with a clear improvement of his pain. On the latest follow up the patient was asymptomatic.

DISCUSSION:

Primary benign bone tumours resulting in back pain are very rare. However, if it occurs without trauma, osteoid osteoma of the spine also must be suspected in the diagnosis ⁽¹⁸⁾. Especially it should be kept in mind in adolescent or young adult patients who have night back pain relieved by aspirin. They may cause of painful scoliosis in children and adolescents ⁽¹⁰⁾.

Spinal radiographs cannot be useful to determine the tumor, due to their small size and complex anatomy of the spine. It is especially hard to see on plain X rays if it is located in the inferior articular facet. So the patients who have nontraumatic back pain and marked spinal stiffness should receive radiographic evaluation. CT, MRI and 99m-Tc MDP bone scintigraphy can be used to confirm the diagnosis. Preoperative CT scanning is very helpful for precisely defining the location of the tumor and extent of osseous involvement ⁽¹⁵⁾. In our case, plain X-Ray radiographs were normal completely. We

could diagnose lesion using 99m-Tc MDP bone scintigraphy and CT.

Surgery (open and minimal access) ^(19,6,14) conservative (medical) and image-guided minimal access techniques ^(14,17) have been used to treat spinal osteoid osteoma. Although there are some good results without surgery ^(8,9) it is not applicable for patients who have scoliosis association with osteoid osteoma. Also radiofrequency (RF) ablation is used for its treatment ⁽¹⁶⁾. But there is a risk of thermal damage for lesions located close to the neural elements ⁽⁹⁾. And also histological verification of the specimen is difficult. The prognosis after total resection is very good. In the majority of spinal osteoid osteomas complete removal is achieved by curettage ⁽¹⁸⁾. Normally curettage prevents iatrogenic instability and the need for a more extensive operation. Successful removal of the tumor depends on the exact localization. In our case the, tumor was localized in the inferior articular process of the facet joint and after excision of the tumor, most of the bone of medial facet joint was lost. We had to make partial posterior fixation on the right side of the L2-L3.

In conclusion, osteoid osteoma should be kept in mind in the patients who suffer from persistent and intensive back pain in emergency department. Lumbar radiography can be normal completely and scintigraphy or CT might be required to diagnose. Osteoid osteoma can be localized in different part of the vertebrae like inferior articular process and can be threaded by local excision and posterior stabilization to prevent instability.

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