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SUBACUTE EPIDURAL ABSCESS FOLLOWING COMBINED SPINAL EPIDURAL ANESTHESIA

KOMBİNE SPİNAL EPİDURAL ANESTEZİ SONRASI SUBAKUT DÖNEMDE GELİŞEN EPİDURAL ABSE

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SUMMARY

While combined spinal epidural anesthesia (CSE) is a frequently used and safe anesthetic method, particularly in orthopedic surgery, it has a serious complication risk. Epidural abscess is a complication of regional anesthesia, which is rare but can be fatal if not diagnosed in time. In this case study, we present a case of epidural abscess development following CSE anesthesia, its diagnosis and treatment.

Key words: Epidural abscess, epidural catheterization, combined spinal epidural anesthesia, complication

Level of Evidence: Case report, Level IV

ÖZET

Kombine spinal epidural anestezi (KSE) özellikle ortopedik cerrahilerde sık ve güvenle kullanılan bir anestezi yöntemi olmakla beraber ciddi komplikasyon riski de taşımaktadır. Epidural apse nadir görülen bir bölgesel anestezi komplikasyonu olmakla beraber geç tanı alması durumunda ölümle sonuçlanabilmektedir. Bu vaka sunumunda KSE anestezi sonrasında gelişen epidural apse vakasının tanı ve tedavisi sunulmaktadır.

Anahtar Kelimeler: Epidural apse, epidural kateterizasyon, kombine spinal epidural anestezi, komplikasyon

Kanıt Düzeyi: Olgu Sunumu, Düzey IV

INTRODUCTION:

Although a combined spinal epidural (CSE) anesthetic method is often preferred between central nerve blocks, a technique-based complication of this process, infection development, can be fatal. CSE anesthesia-based infection can emerge as an epidural abscess, meningitis or an arachnoid abcess. Here, we present a case of epidural abscess after combined spinal epidural anesthesia.

CASE PRESENTATION:

An ASA II male patient aged 63 with coxarthrosis at the left hip was taken to the operation room with the plan of total hip prosthesis, and he was monitored after establishment of vascular access. He was positioned for the application of CSE anesthesia. The entry site for the planned CSE anesthesia was sterilized with povidone-iodine and covered. At the L3–4 space, both on and under the skin, 2 ml of 2% lidocaine anesthesia was given, and then CSE anesthesia was established using 20 mg hyperbaric bupivacaine in a total volume of 4 ml. After placement of an epidural catheter, the entry site was closed sterilely. Postoperative pain control was provided with a local anesthetic solution containing a mixture of fentanyl and bupivacaine prepared for patient-controlled analgesia. At 48 hours postoperatively, the catheter was removed. During the postoperative follow-up for three days in the clinic, no complications were encountered. He was discharged after suggesting follow-up with the orthopedics clinic in week 2.

In the second-week follow-up after discharge, there were no problems. In the six week follow-up after discharge, the operation site was normal in a systemic examination, performed due to increasing lower back pain and pain at the operation site, and no heat increase or erythema were detected when compared to the other leg.

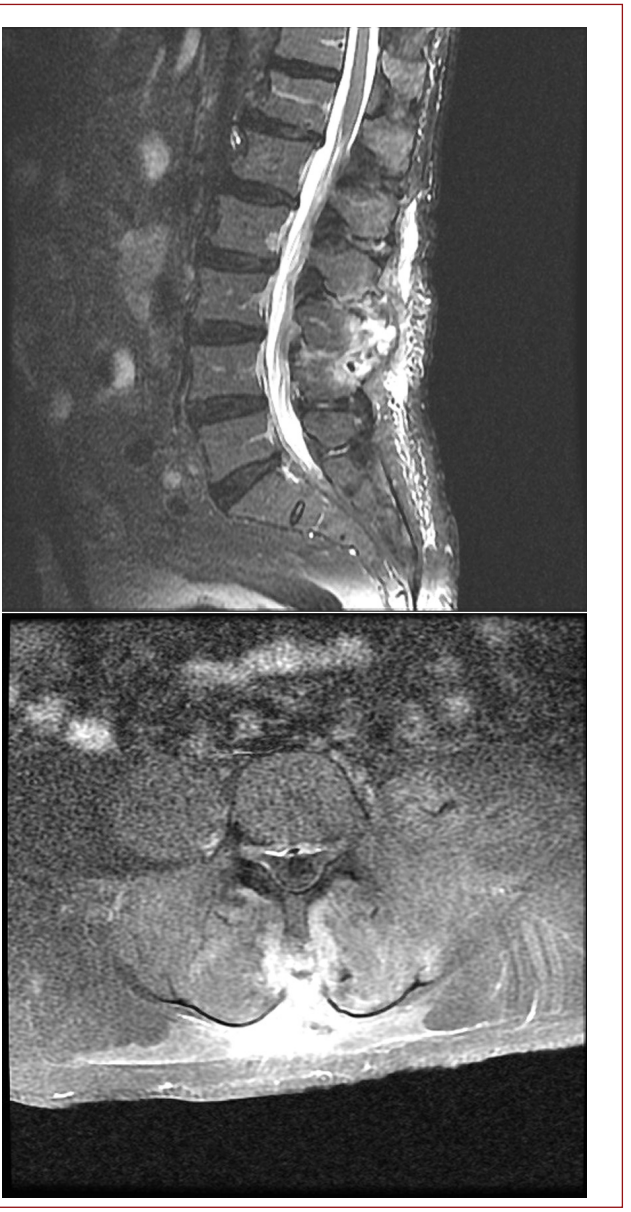

Figure-1. Sagittal and axial MRI of the case

In the dorso-lumbar region of the patient, with a negative Homans test, palpation sensitivity was present. In the lumbar region, a 3×4 cm swelling with fluctuation and without erythema or heat increase was detected. In blood samples, the CRP 86800 WBC was measured as 9.29. In superficial tissue USG and contrast MRI taken later, a collection of fluid was observed,

extending to the epidural distance under the skin (Figure-1.a,b).

The patient, with a pre-diagnosis of an epidural abscess, was immediately admitted to surgery and deep tissue cultures were taken after drainage and debridement application. During surgery, pus and granulation tissue extending from the deep fascia to the bilateral vertebral lamina were detected. Postoperative antibiotherapy was started with ceftriaxone, and then planned as ceftazidime 500 mg flk 3×500 mg by an infection specialist consulted after observation of *Pseudomonas aeruginosa* in the deep tissue. On the second day postoperatively, the clinical complaints of the patient had regressed and he was discharged on the postoperative fifth day. Antibiotherapy was ceased in week six as the patient had no clinical complaints, and follow-up of the lumbar infection was ended. Routine orthopedic follow-up was continued.

DISCUSSION:

Although CSE anesthesia is an anesthetic method commonly and safely used, it has associated complication risks that can result in death. In the case of delayed diagnosis and treatment, central nervous system infections are among the complications that can be fatal, and these can clinically emerge as meningitis, or arachnoid or epidural abscesses[5].

The incidence of formation of epidural abscesses due to the catheter location after CSE anesthesia is between 0.05% and 0.12%. Infection of the epidural space can be due to infected catheter placement or a failure to comply with the rules of asepsis and antisepsis. It can also be due to the spreading of a current infection though the catheter, hematogenous spread, or the use of contaminated local anesthetic and injector. In our case, we think that the abscess developed due to a nosocomial infection, as there were no predisposing diseases causing DM, malignity or immunodepression, and the patient had not been using steroids[1,2,7].

Most of the microorganisms detected in epidural abscess cultures include *S. aureus, Streptococci* or gram negative bacilli[5,6]. In the deep tissue culture of this case, *Pseudomonas aeruginosa,* a gram-negative bacillus, was detected. Depending on the pressure in the region in which they form, the most common symptoms of epidural abscess are back pain, radicular pain, extremity weakness, sensory defects, urinary-fecal incontinence and paralysis. A high fever and moderate leukocytosis can accompany the symptoms, but they are not observed in all patients. Although the time at which symptoms emerge can vary, an epidural abscess should be considered in the late postoperative period in patients with associated diseases, who are taking steroid treatment, and have fever and back pain[3,4]. In our patient, lower back pain and pain spreading though the operation site were present.

Delayed diagnosis and treatment of an abscess that forms due to combined epidural anesthesia can cause death. An epidural abscess should be considered in the presence of fever and back pain in the late postoperative period, especially for patients who have had local anesthesia, because it can be observed with non-specific symptoms in the clinic, and an epidural abscess should be eliminated with a detailed examination by both orthopedic and anesthesia specialists.

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