

Foot Drop after Hip Surgery – An Anaesthetic Perspective

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To the Editor,

Foot drop is characterized by reduced muscle strength in the ankle dorsiflexors and inability to lift the forefoot. Foot drop occurring after an orthopedic procedure can occur due to various causes [1-5] (Figure 1). Epidural anaesthesia may sometimes attract undue attention in such a situation and presence of an epidural air pocket does not rule it out altogether as a cause. We describe an algorithmic approach to investigate the cause of foot drop after acetabular surgery performed under combined spinal-epidural anaesthesia.

A 35-year-old male, American Society of Anesthesiologists' physical status (ASA-PS) II patient was admitted with an alleged history of road-traffic accident and left acetabulum and 3rd–5th left rib fractures and hemothorax. He was initially managed for hypovolemic shock and mechanically ventilated for three days in the intensive care unit. The acetabular fracture was stabilized with tibial skeletal traction under local anesthesia. After hemodynamic stabilization, and an ICU stay duration of five days, he was planned for an acetabular fracture repair by posterior approach under combined spinal epidural anaesthesia. The preoperative evaluation and patient preparation were done as per institutional guidelines. Under aseptic precautions, combined spinal anaesthesia was applied in sitting position and midline approach at L3–L4 interspace. Epidural anaesthesia was given using 18 G Tuohy's needle using the loss of resistance to 3 ml air at a depth of 5 cm and catheter fixed at 11 cm. The spinal anaesthesia was given with 26 G in the same lumbar space, with a clear flow of cerebrospinal fluid and 15 mg of 0.5% bupivacaine (hyperbaric) was given. The procedures were uneventful, and the patient did not report any paresthesia. The duration of surgery was 210 minutes, and 0.5% bupivacaine 5 ml was administered after 2 hours. The intraoperative period was uneventful. The postoperative analgesia was managed with epidural 0.125% bupivacaine (isobaric) with 2 µg/ml fentanyl infusion at 0.05–0.1 ml/kg/hour. On the second postoperative day, on initiating passive limb physiotherapy, the patient complained of difficulty in upward movement of ankle joint of operated limb. The clinical examination and investigations are depicted in Figure 2. A non-contrast computed tomography of the spine showed air pockets in the lumbar epidural space without hematoma (Figure 3). Initially, the epidural air pocket was considered the cause. However, this was unlikely due to the unilateral and singular peripheral nerve involvement. The diagnosis of left deep peroneal nerve injury that could have occurred due to tibial pin was made. He was initiated on limb physiotherapy and foot drop splint was applied. He was discharged with tablet diclofenac 50 mg 8th hourly and vitamin B12. On follow-up, 7 days after discharge with good physiotherapy and regular medications the patient had regained full power of dorsi-flexion.

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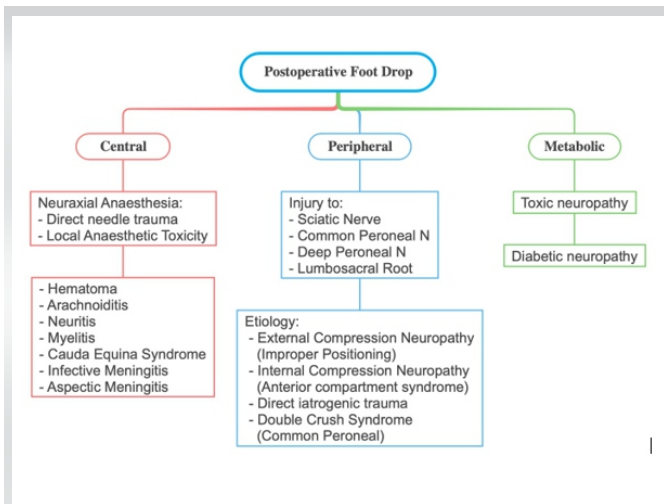


Figure 1: Etiological classification of postoperative foot drop following lower limb surgery.

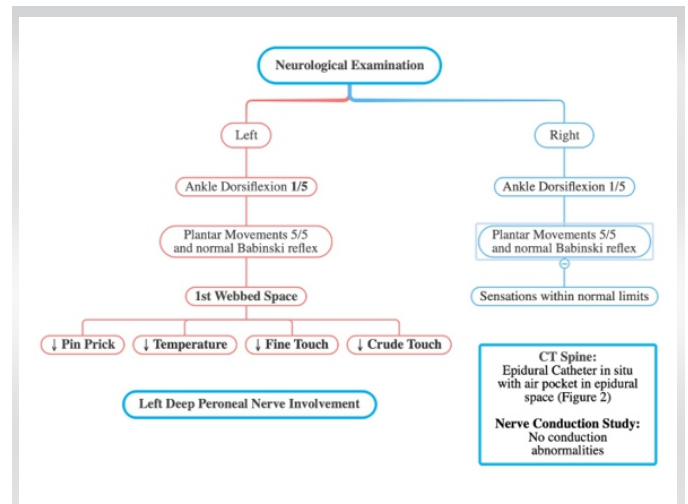


Figure 2: Neurological Examination as carried out in this patient

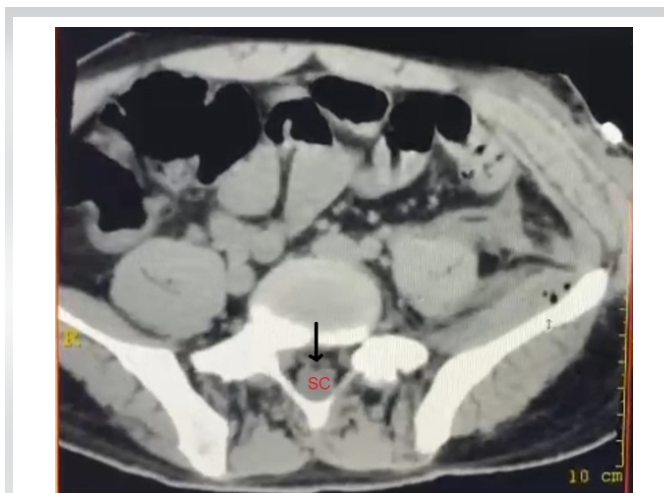


Figure 3: CT spine image showing air pocket (depicted by black arrow) in the epidural space. (CT: computed tomography; SC: Spinal cord)

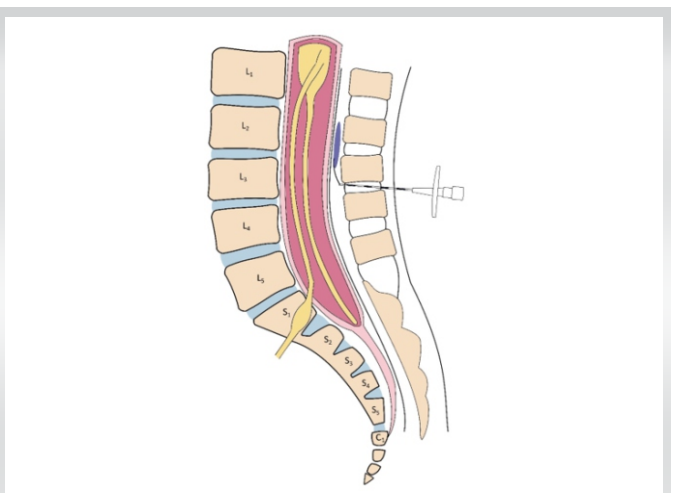


Figure 4: Illustrated image showing the creation of an epidural air pocket during the insertion of an epidural catheter (blue).

References

[1] Carolus AE, Becker M, Cuny J, et al. The Interdisciplinary Management of Foot Drop. *Dtsch Arztebl Int.* 2019;116: 347.

[2] Issack PS, Helfet DL. Sciatic Nerve Injury Associated with Acetabular Fractures. *HSS J.* 2009;5: 12.

[3] Giannoudis PV, Da Costa AA, Raman R, et al. Double-crush syndrome after acetabular fractures. *J Bone Joint Surg Br.* 2005;87-B: 401-7.

[4] Liporace FA, Yoon RS, Kesani AK. Transient common peroneal nerve palsy following skeletal tibial traction in a morbidly obese patient - case report of a preventable complication. *Patient Saf Surg.* 2012;6:4.

[5] Ng J, Marson BA, Broodryk A. Foot drop following closed reduction of a total hip replacement. *BMJ Case Rep.* 2016;2016: bcr2016215010.

Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his/her consent for his/her images and other clinical information to be reported in the Journal. The patient understands that his/her name and initials will not be published, and due efforts will be made to conceal his/her identity, but anonymity cannot be guaranteed.

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