

A Child Develops Drop Foot after Spinal Anaesthesia

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To the Editor,

Spinal anesthesia has been used with children since 1909 (1). In 1950, a study reported that a cooperative child is likely to be a good subject for spinal anesthesia in cases where pre-medication may be inadequate (2).

A nine-year-old girl weighing 20 kgs and with a height of 126 cm was diagnosed with acute appendicitis. An emergency operation was planned. Her medical history was normal except for a productive cough and runny nose over the previous three days. In the preoperative physical examination, rales in the lungs, extensive tenderness and distension in the abdomen were found. Thirty minutes before the operation, midazolam 0.05 mg/kg was given for premedication. A non-traumatic lumbar puncture was performed using a 26 G (Atraucan, 50 mm Braun Melsungen AG, Germany) pediatric spinal needle in the sitting position. At first attempt a clear cerebrospinal fluid flowed out, then 0.2 mg/kg of heavy bupivacaine was applied into the subarachnoid space between the third and fourth lumbar vertebrae. Segmental block dermatome was checked using a pinprick test. When the level reached T8, the operation was started. The patient was hemodynamically stable during the operation and was in the recovery room for 30 minutes. In the sixth postoperative hour, she developed weakness in her left ankle, with muscle strength loss in the dorsiflexion (1/5), eversion (1/5), plantar flexion (3/5), toe dorsiflexion (1/5), and plantar flexion (3/5). Accompanying sensory deficit in the dorsum and anterolateral tibial part of the left leg (L5 and S1 dermatomes) was observed. Lumbar magnetic resonance imaging and computed tomography revealed normal findings. Postoperative 1st and 20th day electromyography showed no pathologic findings. A course of 25 mg/kg gabapentin three times a day

and vitamin B complex twice a day were prescribed. Physical therapy, including passive stretching, range of motion, balance, and strengthening exercises were performed. For the left anterior tibial muscle, electrical stimulation was applied daily for 15 minutes. In neurological examination, improvement in muscle deficit was observed. Muscle strength was 4/5 in all of the muscles involved. Discharged with a home-based treatment program, she was able to walk without support on the 70th day. Although publications about complications of spinal anesthesia in children exist (3), there are few reports indicating safe and effective usage of spinal anesthesia (4,5). Transient neurological damage usually develops without pain or paresthesia during the lumbar puncture, as in our case. In differential diagnosis of neurological damage after spinal anesthesia, possible diagnosis of epidural hematoma, epidural abscess, anterior spinal artery syndrome, adhesive arachnoiditis, cauda equina syndrome should be excluded. We excluded all these diagnoses with the help of a physical examination and MRI. Since the patient was in a supine position and had no history of any intramuscular injection, neurologic damage due to malpositioning or intramuscular injection were also excluded. In case of complications, a multidisciplinary approach is necessary for prompt and correct diagnosis, as well as to initiate the most appropriate mode of therapy for optimal results in the shortest time.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of the university.

Informed Consent: Written informed consent was obtained from the patient who participated in this study.

Peer-review: Externally peer-reviewed.

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REFERENCES

1. Abajian JC, Mellish RW, Browne AF, Perkins FM, Lambert DH, Mazuzan JE Jr. Spinal anaesthesia for surgery in the high risk infant. *Anesth Analg* 1984;63:359-62. [\[CrossRef\]](#)
2. Berkowitz S, Greene BA. Spinal Anesthesia in children: Report based on 350 patients under 13 years of age. *Anesthesiology* 1951;12:376-87. [\[CrossRef\]](#)
3. Llewellyn N, Moriarty DA. The national pediatric epidural audit. *Paediatr Anesth* 2007;17:520-33.
4. Tobias JD. Spinal anaesthesia in infants and children. *Paediatr Anaesth* 2000;10:5-16. [\[CrossRef\]](#)
5. Lacroix F. Epidemiology and morbidity of regional anaesthesia in children. *Curr Opin Anaesthesiol* 2008;21:345-9. [\[CrossRef\]](#)