Epidural Haematoma in a Child - A Case Report

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Abstract: Neuraxial blockage is an excellent modality in current practice of paediatric anaesthesia. Spinal and epidural anaesthesia can either be administered alone or as an adjunct to general anaesthesia for perioperative pain management. The utility of neuraxial or regional anaesthesia in paediatric population has been established with rare occurrence of complications. We would like to report an occurrence of spinal epidural haematoma in a child following an epidural anaesthesia.

Keywords: spinal epidural haematoma, complications, regional, anaesthesia

1. Introduction

Neuraxial blockage is an excellent modality in current practice of paediatric anaesthesia. Spinal and epidural anaesthesia can either be administered alone or as an adjunct to general anaesthesia for postoperative pain management\cite{1}.

The utility of neuraxial blockage in paediatric anaesthesia has been established. It generally has a high safety profile, with rare occurrence of complications\cite{2}.

Spinal epidural haematoma is considered one of the rare possible complications of this procedure. To date, its incidence is unknown. We would like to report an occurrence of spinal epidural haematoma in a child following an epidural anaesthesia.

2. Case

A 5-year-old girl presented to paediatric surgical department with history of generalized pruritus for 2 weeks, along with jaundice for 5 days. Diagnosis of choledochal cyst was made after a series of investigation performed. Preoperative coagulation profile showed prothrombin time (PT) of 13 seconds, international normalized ratio (INR) of 1.3, and activated partial thromboplastin time (aPTT) of 46 seconds.

Emergency excision of choledochal cyst and hepatico-duodenostomy was performed, with epidural anaesthesia as postoperative pain management modality.

Epidural catheter was inserted at L1/L2 level, and it was removed on day 2 postoperatively, at which time a 1 cm swelling was noted to be present at the epidural injection site. She also developed back pain that radiates to her bilateral lower limb, which was worse on the right side, with later progressed to bilateral lower limb weakness within days with motor power of 3 from L2 to S1 bilaterally.

Urgent MRI scan of the spine revealed L1/L2 posterior epidural haematoma causing spinal canal stenosis (Figure 1). At this time, repeated international normalized ratio (INR) was found to be 2.02.

Apart from that, the child developed hypovolemic shock with abdominal distention at day 4 postoperatively. Abdominal ultrasound was suggestive of anastomotic leak. Hence, emergency L1 hemilaminotomy and deroofing of L2 was done by us, in the same setting with laparotomy, evacuation of clots and diathermies of bleeders for the anastomotic leak excision of choledochal cyst by the pediatric surgical team. Intraoperatively, there was blood clot 2cc at the level of L1/L2 (Figure 2), and it was completely evacuated.

Postoperatively, neurology improved with power of 4 from L2 downwards bilaterally, except that she was unable to dorsiflex her right ankle.

On follow up at about 2 months post operatively, the power of the left lower limb returned to normal, while that over the right side was generally 4-5. Right foot drop was still present, which subsequently resolved during follow-ups.
4. Conclusion

The true incidence epidural haematoma in paediatric population is rare, and is underreported, more so in the case of epidural haematoma as a complication of neuraxial anaesthesia. However, it is undoubtedly one the established complications of this anaesthetic technique. When performing neuraxial catheterization, extra caution must be exercised with regards to the technique, monitoring of patient’s coagulation profile and also identifying those at risk of developing acute liver dysfunction.

Physicians and surgeons must be aware of its clinical presentation and means of investigation, due to its urgent nature of intervention in order to minimize morbidity.

References


Author Profile

Muhammad Ariff MY received the MB Bch BAO degree from National University of Ireland in 2008. He pursued his postgraduate study in Orthopaedic Surgery in International Islamic University of Malaysia in 2017. He has 7 years experience in orthopaedic surgery as a medical officer/ resident and 3 years as an orthopaedic surgeon. He is now a spine fellow in Hospital Kuala Lumpur, Malaysia.