ULTRASOUND FOR ILIOINGUINAL / ILIOHYPOGASTRIC NERVE BLOCKS IN CHILDREN

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INTRODUCTION

The ilioinguinal / iliohypogastric block is a frequently used regional anaesthetic technique for various paediatric surgical procedures. Nevertheless, the success rate of this method is described between 70 and 80% (1). In addition, severe complications are published (2,3). Previous studies showed that the use of ultrasonography improves the qualities of nerve blocks in children (4) due to direct visualization of nerves and adjacent anatomical structures and of the spread of local anaesthetic. We therefore designed a prospective, randomized and double blinded study to compare the ultrasonographic guided with the conventional fascial click method.

METHODS

One-hundred children from 1 month to 8 years, scheduled for inguinal hernia repair, orchidopexy or hydrocele repair, were included into the study. The study was approved by the local Ethic Committee and parental written informed consent was obtained. Following induction of inhalational anaesthesia the ultrasonographic guided blocks (50 children) were performed with a SonoSite 180plus transportable ultrasonographic device and a 5-10 MHz linear probe. Both nerves were visualized in a cross sectional view and blocked across short axis with 0.1-0.3 mL/kg levobupivacaine 0.25%. In the control group (50 children) the block was performed 1-2 cm medial of the anterior superior iliac spine using the fascial click method and 0.3 mL/kg levobupivacaine 0.25%. Haemodynamics following skin incision and subsequent perioperative analgesic requirement were recorded.

RESULTS

Demographic data were comparable. The heart rate increased at skin incision $1\pm 6\%$ in the ultrasound group compared to $13\pm 22\%$ in the fascial click group ($p<0.001$). Only 4% of the children in the ultrasound group received fentanyl following skin incision compared to 26% in the fascial click group ($p=0.004$). Accordant to the postoperative evaluated observational and pain discomfort scale, 6% of the children in the ultrasound group needed paracetamol compared with 40% in the fascial click group ($p<0.0001$).

DISCUSSION

Ultrasonographic guidance for ilioinguinal / iliohypogastric nerve blocks in children offers the advantage of direct visualization of the nerves, the surrounding anatomical structures and the distribution of local anaesthetic resulting in superior qualities of blocks compared with the conventional fascial click method. In addition, possible complications, described for the fascial click method, could easily be avoided.

REFERENCES

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4. *Anaesthesia* 59: 642-6