Continuous femoral nerve block for postoperative analgesia after knee rotationplasty for osteosarcoma of the distal femur

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Background and Aims

Osteosarcoma commonly affects the distal femur of adolescents. Knee rotationplasty is a limb salvage surgery alternative to above-knee amputation for osteosarcoma around the knee. Appropriate postoperative analgesia is important to facilitate rehabilitation.

Case presentation

- An 18-year-old male (178 cm, 72 kg) with osteosarcoma at the left distal femur was planned to undergo an excision of the tumor and subsequent rotationplasty.
- Anesthesia was maintained with propofol and remifentanyl (0.2 µg/kg/min) in combination with single-shots sciatic nerve block (0.25% levobupivacaine 20 ml) and femoral nerve block (0.25% levobupivacaine 20 ml).
- Osteosynthesis was performed between the remaining femur and tibia.
- Femoral, tibial and common peroneal nerves were isolated and preserved.
- Vessels were required resection and microsurgical anastomosis was required.
- Anesthesia time: 19 h 23 min, surgery time: 17 h 20 min, bleeding: 1238 ml (no blood transfusion required)
- At the end of surgery, intravenous acetaminophen 1000 mg and flurbiprofen axetil 50 mg were administered and continuous femoral nerve block was initiated.
- At emergence, fentanyl 100 µg was intravenously administered.

Figure 1: Pictures of left knee rotationplasty before surgery with planned excision lines (A) and at the completion of surgery (B).

Figure 2: Postoperative course of the patient until postoperative day (POD) 4.

Postoperative time [h]	3	4	7	27 (POD2)	51 (POD3)	75 (POD4)
Wound pain (NRS)	0	0	0	2	2	1
Events	Oxygen off	Start oral fluid	Start regular diet	Start self postural change	Removal of iv route	Removal of urine catheter

continuous femoral nerve block
(0.17% levobupivacaine 5 mL/h, no leakage and no catheter dislodgement)

Oral acetaminophen (400 mg every 6 h)

NRS, numerical rating scale (0 = no pain and 10 = worst imaginable pain)

Conclusions

- Continuous femoral nerve block provided excellent analgesia after knee rotationplasty.
- Sparing postoperative opioids facilitated early oral intake.
- Preservation of contralateral lower extremity motor function also facilitated self postural change.