38th Annual
ESRA
Congress

BILBAO, SPAIN
11-14 SEPTEMBER
2019

PERICAPSULAR NERVE GROUP (PENG) BLOCK IN THE MANAGEMENT OF POSTOPERATIVE PAIN: A CASE REPORT OF APPLICATION IN TOTAL HIP ARTHROPLASTY REVISION SURGERY

**Fabrizio Lentini, *MD, *Jlenia Marelli, MD *Paolo Barone, MD, *Roberto Pusinelli, MD, 1Pierfrancesco Fusco, MD,
ASST Lariana, Sant'Anna Hospital, Como, Italy, 1Department of Anesthesia and Intensive Care Unit, San Salvatore Academic Hospital of L'Aquila

- ✓ Revision of total hip arthroplasty could be complicated by severe intraoperative risks, first of all massive bleeding, due to the chronic inflammatory state of soft tissues. Technically, the surgeon needs to remove the antibiotic spacer, previously inserted and fixed by surgical cement.
- ✓ Clinical case: a 69 years old woman, with moderate aortic stenosis and conserved ejection fraction, diaphragmatic hernia, normal-functioning multinodular thyroid struma, BMI 23 and a history of right total hip replacement in 2014 complicated by Gram+ polymicrobial prosthetic infection.
- ✓ Performing of antibiotic spacer replacement surgery with total hip arthroplasty and diaphyseal fixation using a lateral plate.
- ✓ 8.15 am: ultrasound guided PENG Block, with 22 G – 80 mm needle, anesthetic mixture composed of Ropivacaine 0.5% and Dexamethasone 4 mg, 20 ml.

- ✓ At 9.15 am: general anesthesia induction (Fentanyl, Propofol, Cisatracurium)
- ✓ Early-goal directed Hemodynamic Therapy guided by FloTrac® mini-invasive monitoring
- ✓ 9.50 am: surgical incision
- ✓ Total blood losses of 2.500 ml treated with volume resuscitation (crystalloids, colloids, cell salvage and packed red blood cells), and vasopressor (norepinephrine 0,05 – 0,1 mcg/kg/min)
- ✓ 3.50 pm: end of surgery

- ✓ 4.15 pm: ICU admission.
- ✓ Postoperative clinical course: 3 hours of mechanical ventilation, low dose norepinephrine (0,05 mcg/kg/min) for 24 hours. Numeric Rate Scale (NRS) for pain evaluation was 0 with acetaminophen 1 gr ev x 2/day. During ICU stay the patient was alert, calm and orientated.
- ✓ ICU discharge to orthopedic ward after 2 days with low-flow O₂ therapy, hemodynamic stability and normal organ functions (SOFA score: 2).
- ✓ The daily of NRS was 2.
- ✓ Three weeks later, the patient was discharged to rehabilitation with the following indications:
 - Partial load 20 kg protected by crutches
 - Postural steps allowed
 - Isometric gymnastics, reinforcement of the lower limb and pelvic girdle muscles
 - Ban on dislocated postures, use of anti-dislocation aids
 - VTP with compressive bandage and LMWH
 - Analgesics as needed
- ✓ **Conclusions:** in this case, pericapsular nerve group block was **effective** in intra and postoperative pain management, allowing a **rapid recovery** and **helping in preventing most of the complications of other analgesic therapies and technics**. This type of block could be **effective** for pain control in **total hip replacement procedures**, even if complicated by serious infections.
- ✓ **In this case, peripheral nerve block was a successful choice in order to maintain an adequate haemodynamic stability, compared to the possible effects of neuraxial blocks.**