ANAESTHESIA FOR RENAL AUTOTRANSPLANTATION AND *EX VIVO* RENAL ARTERY ANEURYSM REPAIR - A CASE REPORT

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BACKGROUND

Renal autotransplantation is an alternative for treating rare renal artery aneurysm.¹ We report the challenging anaesthetic management of *ex vivo* complex Aneurysmorrhaphy with Autotransplantation (AA) after a laparoscopic nephrectomy.

CASE REPORT

A 73-year-old woman, American Society of Anaesthesiology (ASA) physical status 3 (hypertension, diabetes mellitus, multinodular goiter, dyslipidemia) was presented for elective *ex vivo* AA (aneurysm with 28 mm of diameter).

INTRAOPERATIVE

Anaesthesia

- Premedication: midazolam 1mg IV
- Low thoracic epidural catheter placed at T11-T12 for postoperative (PO) analgesia
- General anaesthesia induced with IV fentanyl 150mcg, propofol 70 mg, rocuronium 50 mg and maintained with desflurane, O₂ and air.

Monitorization

- ASA standard
- Invasive blood pressure (BP)
- Central venous pressure (CVP)
- Neuromuscular block
- Depth of anesthesia
- Cerebral oximetry
- Urine output (UOP) and arterial blood gas were measured hourly.

Laparoscopic nephrectomy

- UOP > 1ml/Kg/h;
- High CVP (12-15 cmH₂O);
- Systolic blood pressure (SBP) >120 mmHg.

Bench surgery: aneurysmorrhaphy

- Restriction of fluids;
- CVP of 6-7 cmH₂O.

Kidney transplantation

- Before unclamping, mannitol 0,25 g/kg and furosemide 100 mg were administrated;
- CVP and SBP were increased to 15 cmH₂O and 140 mmHg.

FIG. 1: Aneurysmorrhaphy

The surgery lasted 8 hours, with total ischemia time of 3 hours.

Analgesia was attained using continuous epidural infusion of ropivacaine 0.2%, epidural bolus of morphine and IV acetaminophen.

The patient was hemodynamically stable, without significant metabolic or electrolytic abnormalities and minimal blood loss throughout the intra and PO period. She was discharged on the 8th PO day with well-preserved renal function.

DISCUSSION

Ex-vivo AA demands proper intraoperative management according to the surgery phase with maintenance of adequate UOP. Invasive monitoring is required to achieve this goal. Mannitol and furosemide are given to protect the kidney and improve graft viability.² Colloids and drugs that may cause renal lesion should be avoided.

CONCLUSION

Success of the autotransplanted kidney depends on preoperative optimization, intra operative hemodynamic stability and invasive monitoring during perioperative period.

¹Min E-K et al. Renal autotransplantation in open surgical repair of suprarrenal abdominal aortic aneurysm. Ann Surg Treat Res. 2015; 89(1): 48-50.

²Rajmonhan N, Neeta S, Das HK. Anaesthesia for autotransplantation after extracorporeal néfron sparing surgery for bilateral giant renal angiomyolipoma. Indian J Anaesth. 2014 Jan-Feb; 58(1): 66-68.