Continuous Wound Infiltration of Ropivacaine for Postoperative Analgesia After Laparoscopic Pheochromocytoma Surgery in a Paediatric Patient

Tomotaka Morita^{1,2}, Osamu Uchida¹, Satoshi Shibuta²

¹ Department of Anaesthesia, Chiba Children's Hospital, Chiba, Japan

² Department of Anaesthesiology and Intensive Care Medicine, International University of Health and Welfare, Narita, Japan

Backgrounds

- **Continuous wound infiltration (CWI)** of local anaesthetics has been a promising alternative to other regional techniques for postoperative analgesia in adults.
- Although lower incidence of adverse effects and avoidance of neurological complications of epidural anaesthesia are benefits of CWI, there are only a few reports on the effectiveness of CWI for paediatric patients.
- The collapse of hemodynamics is predicted in perioperative period of adrenalectomies, so that the beneficial pain management is needed not only for the relief from postoperative pain but also for the stability of hemodynamics.

Case History

- 14-year-old girl (height 153.8cm, weight 55.3kg)
- Diagnosis: right pheochromocytoma (*Figure 1*)
- Scheduled operation: laparoscopic right adrenalectomy
- Past history: von Hippel-Lindau disease
- Preoperative medication: Urapidil 120 mg/day

Figure 1 Axial CT

Examination

- Operation time: 241 minutes, Anaesthesia time: 384 minutes
- Anaesthesia: TIVA (Fentanyl 525 µg, Remifentanyl 10.4 mg, Paracetamol 780 mg)
- Before the resection of right adrenal gland, phentolamine was administered.
- Norepinephrine and dopamine infusions were started after the resection for the maintenance of blood pressure.
- **One multi-holed catheter for CWI** (*Figure 2*) was placed over the sutured peritoneum and **7ml of 0.375 % ropivacaine** was injected.
- After the end of surgery, **bilateral rectus sheath blocks** and **right transversus abdominis plane block** were performed with a total of **25 ml of 0.375 % ropivacaine**, and **continuous infusion of 0.2% ropivacaine at 2 ml/h** through the catheter was started and continued for **four days**.

Figure 2 Multi-holed catheter

Post Operative Care

Conclusions

- CWI provides continuous analgesia while avoiding both neurological complications and hemodynamic instability.
- CWI might be considered for postoperative pain management after paediatric laparoscopic surgeries.