

## **Pulse Oximeter Perfusion Index as a Predictor for the Effect of Ilio-Inguinal Block**

Uemura A., Yagihara M., Miyabe M. *Proceedings of the 2008 Annual Meeting of the American Society of Anesthesiologists*: A1737.

### **Introduction**

Ilio-Inguinal block is useful for the management of pain during inguinal herniorrhaphy in children. However it is difficult to evaluate the effect of block non-invasively. Since the pulse oximeter perfusion index (PI) has been suggested to reflect the peripheral perfusion, it is hypothesized that the pulse oximeter PI might predict the effect of Ilio-Inguinal block by compared block side with non-block side. Therefore we examined if the changes in PI reflects the effect of Ilio-Inguinal block.

### **Methods**

Obtaining institutional approval ethics committee and written informed consent, a prospective study was operated with 18 children (mean age 32 months, male 11: female 7, right side 10 cases: left side 8 cases). They were planned to receive inguinal herniorrhaphy. After arrival at operating room, patients were monitored electrocardiography, non-invasive blood pressure, and 2 pulse oximeters (Masimo SET Radical, U.S.A, left and right side limb each). Anesthesia was maintained with nitrous oxide-oxygen-sevoflurane via Laryngeal mask. Patients were received left or right Ilio-inguinal block with 0.25% and 0.5% Ropivacaine (0.2ml/kg) and divided into two groups according to concentration of Ropivacaine.

PI was recorded with Physiolog® (Masimo Corp. U.S.A). Non-invasive blood pressure, heart rate, endtidal CO<sub>2</sub>, endtidal Sevo% and respiratory rate were also recorded.

### **Results**

After 5 minutes of block in both group, PI of block side is significantly elevated compared with non-block side.

### **Conclusion**

The pulse oximeter PI reflects the peripheral perfusion and changed by Ilio-Inguinal block compared blocks side with non-block side. PI value can be used as a prediction for the effect of Ilio-Inguinal block. As we use pulse oximeter routinely in every patients during operation, PI value is useful, objective, and non-invasive method to evaluate the effect of Ilio-Inguinal block in pediatric patients.

Figure 1 changes of PI value (0.25% Ropivacaine)

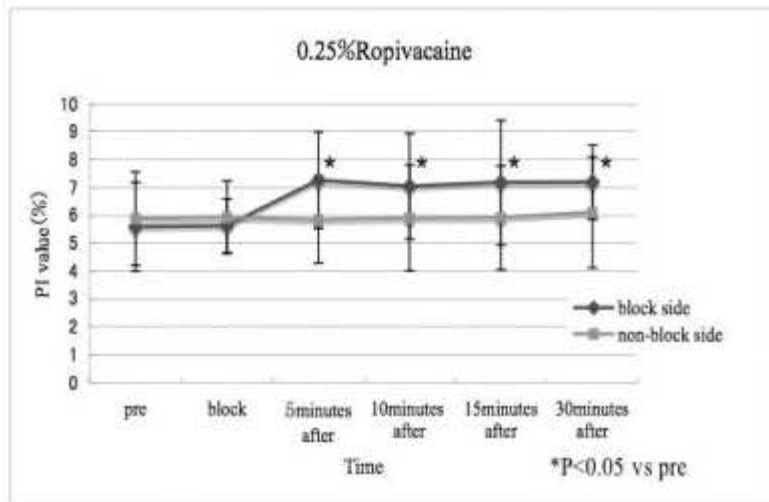


Figure 2

Figure 2 changes of PI value (0.5% Ropivacaine)

