Effectiveness of intrathecal morphine and fentanyl as anesthesia for cervical cerclage

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Background and aim

In our hospital, cervical cerclage had been executed under spinal anesthesia using local anesthetics alone. However, this is sometimes insufficient for managing intra- and post-operative visceral pain. From 2015, we started to use morphine and fentanyl to improve analgesia quality through the use of intrathecal opioids during cervical cerclage.

Method

Patients who underwent cervical cerclage between 2015 and 2017 in our hospital received intrathecal opioids.(O-group)
We assessed the same number of consecutive cases before the use of intrathecal opioids.(L-group)
In both cases, the hyperbaric bupivacaine dosage was determined by the anesthesiologist in charge. The operation began after we confirmed the effect of the spinal anesthesia. Anesthesia was managed without sedation to avoid the placental transmission of sedative medicines. All patients returned to the Maternal-Fetal Intensive Care Unit after the operation and were monitored for 24 hours. Patients could request acetaminophen and pentazocine to manage post-operative pain

《Medicines that were Administered》

O-group

- 0.5% hyperbaric bupivacaine
- Morphine hydrochloride (0.05mg)
- Fentanyl (20mcg)

L-group

- 0.5% hyperbaric bupivacaine

《Evaluation Criteria ~24 hours~》

- Postoperative pain
  - Numerical Rating Scare (NRS):highest value in 24 hours
- The use of additional analgesics
  - Acetaminophen
  - Pentazocine
- Complications
  - Respiratory depression
  - Itching sensation
  - Nausea/vomiting

Results

Forty-four patients were enrolled.

(O-group: n=22 L-group: n=22)

* Median (SD)

	O-group	L-group	P
Age	35 (5.0)	34 (4.9)	P=0.49
Operation Time	45 (16.4)	41 (19.8)	P=0.20
Doze of Bupivacaine (ml)	2.0 (0.5)	2.5 (0.3)	P<0.01
Numerical Rating Scare	0 (0.8)	6 (3)	P<0.01

- There were no severe respiratory depressions.
- There were no severe complications on the fetuses.

Conclusion

Intrathecal opioids provide better analgesia and reduce the intravenous administration of additional analgesics in patients undergoing cervical cerclage. The reduction of additional analgesics leads to a reduction in the placental transmission of medicines. In this way, we could provide better quality of analgesia for patients (mothers) and less invasiveness for fetuses.