



EFFECT OF MEAN ARTERIAL PRESSURE ON THE NEONATE IN SPIANAL ANESTHESIA

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OBJECTIVE

Spinal anesthesia is highly likely to occur in mothers with hypotension, which can affect blood supply to the fetus. It is necessary to find out how hypotension in mothers undergoing spinal anesthesia affects newborns.

DESIGN

We investigated changes in blood pressure before and after anesthesia in pregnant women who underwent spinal anesthesia, compared the Apgar score, which indicates the prognosis of the newborn, and the pH of the umbilical vein to find out which factors affect the prognosis of the newborn.

METHOD

At the time of admission, the height, weight, and blood pressure of the mother were measured, and blood pressure before and after spinal anesthesia was measured. The effect of the difference in mean arterial pressure before and after spinal anesthesia on newborns was analyzed for the relationship between the Apgar score and gas analysis values of the umbilical cord vein.

RESULTS

The average arterial pressure change after spinal anesthesia decreased by 18.3% (± 16.1) on average, and decreased by 7.8% (± 13.9) on average compared to the average arterial pressure at hospitalization. The average arterial pressure change after spinal anesthesia did not show a statistical association with the 1.5-minute Apgar score of newborns. In addition, there was no statistical association with pH, pCO₂, pO₂, HCO₃, and BE confirmed in the umbilical cord vein gas analysis. The difference between the average arterial pressure at the time of hospitalization and the average arterial pressure after anesthesia also did not show a statistical association.

CONCLUSIONS

In this study, the decrease in mean arterial pressure after spinal anesthesia did not affect the hypoxia and acidosis of the fetus and did not affect the Apgar score of the newborn. Well-established methods for preventing and treating this hypotension are volume expansion, use of vasoconstrictors, and appropriate patient posture.

REFERENCES

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Maternal characteristics	Mean±SD	Mean arterial pressure (p-value)
Age (year)	32.1±5.1	0.816
Gestational Age (week)	37.8±1.3	0.642
BMI (kg/m ²)	30.1±3.9	0.341
Prim/Multi	42/32	0.421
Fetal characteristics		
Body weight	3093.6±424.2	0.220
Apgar score at 1min	8.1±1.2	0.928
Apgar score at 5min	9.2±0.6	0.464
Placenta weight (g)	746.7±178.7	0.872
Umbilical artery ABGA		
pH	7.3±0.1	0.751
pCO ₂ (mmHg)	46.8±6.9	0.776
pO ₂ (mmHg)	29.5±7.4	0.863
HCO ₃ (mmol/L)	23.2±1.6	0.284
BE(mmol/L)	-2.6±1.7	0.173