

FETAL IMPACT WITH THE USE OF PHENYLEPHRINE INTRAVENOUS INFUSION USED AS PROPHYLAXIS OF ARTERIAL HYPOTENSION AFTER INTRADURAL ANESTHESIA AT ELECTIVE CESAREAN

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OBJECTIVE

To assess the fetal repercussion, both in the Apgar test and in cord blood gas analysis, of the use of continuous intravenous infusion of phenylephrine used as prophylaxis for hypotension after intradural anesthesia in elective cesarean

MATERIAL AND METHOD

We performed a prospective study including all elective cesarean performed at the obstetrics service of the Miguel Servet University Hospital from November 2012 to March 2015. We excluded the non-acceptance of participation in the study, the presence of uterine dynamics or the suspicion of maternal-fetal pathology. 105 patients were included into the study.

All patients underwent an intradural anesthesia with 0.5% hyperbaric bupivacaine and doses according to the size (<155cms-10mg, 155-165-11mg,> 165-12mg)

All newborns were submitted to an apgar test at 5 minutes of life, as well as arterial and venous blood from umbilical cord was taken for determination of gasometry.

We made a comparative analysis evaluating pre and post intradural anesthesia data according if patients were administered a continuous intravenous infusion of phenylephrine(2mcg/Kg/min) (53 patients)or not(52 patients). The patients were randomly assigned to each group.

To correlate different variables we used the chi square of Pearson or Fisher test for discrete variables and t-student or U Mann-Whitney test for continuous variables. Significance at $p < 0.05$

RESULTS

DATA	Control group (n=52)	Prophylaxis group(n=53)	P=
PRE INTRADURAL ANESTHESIA			
Age (years)	34.1(4.8)	33.7(4.8)	0.657 ^a
BMI(Kg/m ²)	27.4(4.1)	28.2(4.1)	0.344 ^a
Gestational age(weeks)	38(37-39)	38(37-39)	0.385 ^b
POST INTRADURAL ANESTHESIA			
Fetal extraction time(sec)	73.5(45-105)	68(46.5-87.5)	0.582 ^b
Apgar after 5 minutes=9	3(6%)	4(7%)	0.735 ^b
Apgar after 5 minutes=10	48(94%)	49(93%)	0.735 ^b
Umbilical cord arterial ph	7.29(7.25-7.33)	7.29(7.26-7.32)	0.690 ^b
Umbilical cord arterial pCO ₂	54.5(52-59)	57(55-61)	0.018 ^b
Umb.Cord art. Lactic acid	2.05(1.7-2.9)	1.7(1.5-2.4)	0.022 ^b
Umb.Cord art. Glucose	50(46-56)	50(46-55)	0.705 ^b
Umb.Cord art. HCO ₃	26(25.2-27.3)	27.6(26.2-28.4)	0.003 ^b
Umbilical cord arterial SO ₂	6(3-13.5)	8(3.5-12)	0.746 ^b
Umbilical cord venous ph	7.37(7.31-7.39)	7.35(7.31-7.39)	0.377 ^b
Umbilical cord venous pCO ₂	43(39-47)	45(41-49)	0.252 ^b
Umb.cord ven. Lactic acid	1.7(1.5-2.1)	1.6(1.3-1.9)	0.053 ^b
Umb.cord ven. Glucose	61(57-69)	60(56-64)	0.145 ^b
Umb.cord ven. HCO ₃	24.1(23.5-24.8)	24.3(23.6-25.4)	0.313 ^b
Umbilical cord venous SO ₂	29(14-47)	27(18-43)	0.933 ^b

a- Values expressed as means (+/- typical deviation) and compared using the Student's T-test

b- Values expressed as medians (interquartile range) and compared using the U-Mann-Whitney test

CONCLUSIONS

Prophylaxis of arterial hypotension with phenylephrine in intravenous infusion at 2 mcg / kg / min, did not present a significant impact at the fetal level, assessed by Apgar test and cordometric gasometry.