26337 - MINI-DOSE SPINAL BUPIVACAINE FOR CASEAREAN SECTION.

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Introduction

Maternal hypotension complicates 60-94% of Caesarean deliveries when 10-15 mg of bupivacaine is used¹. These doses of bupivacaine are associated with extensive motor blockade and unpleasant intraoperative claustrophobia². Reducing the dose of bupivacaine to 5 mg decreases the incidence of hypotension, nausea, and the quantity of vasopressor used³. The primary objective of this study was to evaluate the effect of mini dose bupivacaine spinal anesthesia on maternal hemodynamics. The secondary objective was to determine if anticipated reductions in hypotension, nausea, and motor blockade are reflected in increased patient satisfaction.

Methods

Following Research Ethics Board approval and written informed consent 52 healthy term parturients undergoing elective Caesarean delivery were randomly assigned to mini (4.5 mg) and conventional (12 mg) dose bupivacaine spinal anesthesia. All patients received similar intrathecal doses of fentanyl (50 mcg) and morphine (200 mcg). Group allocation was concealed from the patient, surgeon, anesthesiologist, and study personnel. Maternal hemodynamics, and sensorimotor levels were recorded at regular intervals. Intravenous fluid administration and vasopressor use was standardized. Side effects were documented. Quality of Recovery⁴ was assessed on postoperative days 1, 2, and 3.

Results

A total of 55 women were recruited. Two women were withdrawn after randomization when their surgery was postponed and a third was excluded for pre-operative hypertension. The remaining 52 women completed the study protocol. Demographic characteristics of subjects in both groups were similar. Block characteristics and side effects are summarized in Table 1. Use of supplemental analgesia in both groups was statistically similar (5 of 27 mini-dose vs 1 of 25 conventional dose, $p = 0.190$). Hemodynamic measurements and use of ephedrine were similar in both mini and conventional dose groups.

Discussion

Minidose intrathecal bupivacaine provided anesthesia comparable in most regards to conventional doses. Patients receiving minidose bupivacaine did, however, experience significantly less motor blockade of shorter duration. Nausea and pruritus were common in both groups and likely result from the relatively large doses of fentanyl used in this protocol.

References

1. Can J Anesth 2002;49(6):588-99.
2. Can J Anesth 1993;40:346-56.
3. Reg Anesth Pain Med 2000;25(3):235-9.
4. Anesth Analg 1999;88:83-90.

Table 1. Block Characteristics and Patient Outcome.

	Mini Dose	Conventional Dose	P value
Number	27	25	
Maximum cephalad sensory level	C8 [C6, T2]	C8 [C6, T1]	0.780
Time for 2 segment regression of sensory level (min)	46.3 ± 23.9	58.4 ± 26.7	0.091
Maximum Bromage Score	1 [1,2]	4 [4,4]	<0.001
Time to Bromage Score = 1	32.0 ± 33.2	158.6 ± 44.9	<0.001
Hypotension requiring treatment	20 (74)	19 (76)	0.873
Ephedrine used (mg)	12.8 ± 12.5	11.8 ± 12.1	0.776
Nausea or vomiting	9 (33.3)	10 (40.0)	0.618
Pruritus	24 (88.9)	20 (80.0)	0.375
Satisfaction (10 cm VAS)	9.0 ± 1.2	9.0 ± 1.3	0.850
Quality of Recovery Score			
Postoperative Day 1	15.1 ± 2.0	14.8 ± 2.6	0.670
Postoperative Day 2	16.1 ± 1.4	16.0 ± 2.6	0.950
Postoperative Day 3	16.5 ± 2.6	16.1 ± 2.5	0.535

Nominal data as number(%)

Ordinal data expressed as median [interquartile range]

Continuous data expressed as mean ± standard deviation