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EVALUATION OF BLADDER FUNCTION AFTER SPINAL ANESTHESIA FOR CESAREAN SECTION

Hypothesis / aims of study

To evaluate the effect of spinal anesthesia on bladder function in women undergoing cesarean section.

Study design, materials and methods

An observational study was performed in thirty Caucasian pregnant women who underwent elective cesarean section with spinal anesthesia performed with hyperbaric bupivacaine plus sufentanyl. Filling cystometry, post void residual volume (PVR), anocutaneous and bulbocavernosus reflex were analyzed after 4 and 6 h (group A, n = 15), and after 6 and 8 h (group B, n = 15) from spinal anesthesia. Proprioceptive bladder sensation during cystometry, rate of spontaneous voiding, PVR and anocutaneous and bulbocavernosus reflex at various time from spinal anesthesia was measured.

Results

In group A, 4-h after anesthesia, the strong voiding desire was felt by 27% of women compared to 100% at 6-h ($p<0.001$). Only 13% of the sample was able to void spontaneously at 4-h compared to 33% at 6-h (Table 1). Perineal reflexes were strongly felt only after 6-h from anesthesia. In contrast, in group B, after 8-h from spinal anesthesia, the 93% of the sample felt a strong voiding desire and the 80% of women were able to void spontaneously (Table 1). The 97% of women felt perineal reflexes with high intensity compared with 27% at 6-h.

Interpretation of results

Our findings confirm that spinal anesthesia with bupivacaine plus sufentanil cause a clinically significant disturbance of bladder function in women who underwent to cesarean section.

Concluding message

A close monitoring of bladder filling in these women is required to reduce the risk of acute urinary retention

Table 1

Percentage of women who reported bladder sensation during filling cystometry after spinal anesthesia

	GROUP A		GROUP B	
	4h	6h	6h	8h
Patients (n)	15	15	15	15
First sensation of bladder filling (%)	73	100	100	100
First voiding desire (%)	53*‡	100	100	100
Strong voiding desire (%)	27§†	100	73	93
Spontaneous voiding (%)	13**	33	47	80*

* P = 0.002, vs. 6h in group A
‡P = 0.002, vs. 8h in group B
§ P < 0.0001, vs. 6h in group A
†P = 0.0002, vs. 8h in group B
**P = 0.0003, vs. 8h in group B

Specify source of funding or grant	**None**
Is this a clinical trial?	**Yes**
Is this study registered in a public clinical trials registry?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**Ethics Committee of Catholic University of Sacred Heart**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**