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Cavalcanti G[1], Bruschini H[1], Manzano G [1], Giuliano L[1], Nóbrega J A[1], Srougi M[2]
1. Federal University of São Paulo (UNIFESP-EPM), 2. São Paulo (UNIFESP-EPM)

IS CESAREAN SECTION BETTER THAN VAGINAL DELIVERY IN PREVENTING DAMAGE TO THE PUDENDAL SENSORIAL INNERVATION?

Aims of Study

There is a dearth of studies regarding the relationship between pregnancy and delivery to the problem of female urinary incontinence. The trauma sustained at delivery is considered the major mechanism to the increased risk of urinary incontinence among women (1, 2). Therefore, it seems reasonable to believe that cesarean section should avoid injury to the pelvic floor and consequently preserve integrity of the pelvic nerves. Herein, we intend to analyse this possibility by comparing pudendal somatosensory evoked potential latency (SSEP) in nulliparous women to those made after vaginal and cesarean deliveries.

Methods

After approval by the local ethics committee, thirty-three women without urinary or anal complaints or previous pelvic and vaginal surgeries were divided into 3 groups according to pregnancies and childbirths: nulliparous (n=11), vaginal (n=11) and cesarean deliveries (-n=11). The ages were similar, respectively 39.0, 41.9 and 36.0 years (p =0.57). Patient heights were equally similar (1.55, 1.57 and 1.59 meters) (p=0.51). The vaginal delivery group had a mean of 2.45 deliveries and the cesarean group, 2.0 (p=0.86). The tests comprised the bilateral determinations of clitoral sensory threshold by method of limits and the SSEP (P1 latency). The recordings were obtained in the midline of the scalp (Cz´and Fz points of the 10-20 International System) as described before (3, 4). The patient characteristics and results were submitted to statistical analysis by ANOVA and Student`s t test.

Results

The results are shown in table 1. There were no differences in the sensorial threshold among the 3 groups. The SSEP was significantly different only comparing the cesarean group to the nulliparous (p=0.018). Patients with vaginal delivery had similar SSEP when compared to the nulliparous (p>0.05).

Table 1:

	Nulliparous	Vaginal	Cesarean section	p value
Sensorial threshold (mA)	3.9	3.6	4.1	0.58
SSEP latency (ms) [mean ± SD]	35.7±2,4	37.1±2,2	38.8±2,7	0.018 nulliparous x cesarean
Age (years)	39.0	41.9	36.0	0.57
Height (meters)	1.55	1.57	1.59	0.51
Delivery events	0	2.45	2.0	0.86

Conclusions

This result contradicts the expectance of damage to pelvic nerves occurring after vaginal delivery. The reason for alterations in the pudendal somatosensory evoked potential latency in women submitted to cesarean section is speculative. However, motor damage to the pudendal nerve in women who had cesarean section histories during labor has been previously described (5). A possible explanation is the fact that the fetus is usually delivered by cesarean section when labor becomes arrested. This time delay between quitting vaginal delivery and making the option for cesarean section, could be crucial for the development of this injury. Other possibility is a previous alteration in the pudendal sensorial innervation leading to worsening with the cesarean delivery and equally causing differences in the tests. The SSEP for detection of neurological damages in incontinent women must be analyzed carefully in patients submitted to cesarean deliveries.

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