

CONTINUOUS INTRA-RECTAL PRESSURE RECORDING DURING SECOND PHASE OF LABOR: IS IT PREDICTIVE OF POST-DELIVERY PELVIC FLOOR PROBLEMS ?

Hypothesis / aims of study

to assess the biomechanical forces delivered against pelvic floor structures during the second phase of labor in primiparae women, to correlate them with obstetrics parameters and post-delivery functional pelvic floor complaints.

Study design, materials and methods

Using a new created microsystem device, intra-rectal pressures during the second phase of labor were continuously recorded in 59 primiparae women.

Total area of peak pressures and medium value of maximum peak pressures recorded during bearing efforts were calculated, using a newly created software and correlated to obstetrical parameters and to ICS-validated questionnaires (UDI-6, Wexner score, FSFI).

Correlations were assessed using Pearson correlation test. Comparisons were performed using the t-test for independent groups and controlled with the correspondent nonparametric procedure, the Mann-Whitney test.

Results

The duration of second phase of labor was 44±25 minutes during which the microsystem measured 11.9± 8 bearing efforts of 96± 23 seconds duration. 73% of women delivered spontaneously, 23 % had a low forceps assisted delivery, giving birth to baby's weight of 3278±400 gr.

The medium value of total area during peak pressures was 32362± 26300 cmH₂O*sec with a great variation from one women to another. The medium value of maximum "bearing peaks" pressures was 61 ±23 cmH₂O, exceeding 100 cm H₂O in 8.5 % of women.

These two parameters were not correlated with baby's weight (R: 0.08, P:0.7 and R:0.21, P:0.7) as well as with the mode of delivery (spontaneous or forceps assisted).

Pelvic floor functional problems were evaluated 14± 5 months after delivery: a UDI-6 scoring of more than 5 points was found in 17 % of the women, 13 % had flatus incontinence, 5 % had liquid/solid stools incontinence, 8 % described great difficulties for reaching climax.

A weak, but significant correlation could be established between values of total area during peak pressures and urge incontinence (R: 0.27, P: 0.06), small amounts of urine leakage (R:0.27, P: 0.03), flatus incontinence (R:0.28, P:0.03) and difficulties for reaching climax (R:0.33, P: 0.02). No significant correlations could be established between medium values of maximum bearing peaks pressures and pelvic floor complaints.

Interpretation of results

Continuous assessment of intra-rectal pressures during second phase of labor show no correlations with baby's weight or the mode of delivery, a weak but significant correlation between total area of peak pressures and urge incontinence, small amounts of urine leakage, flatus incontinence and difficulties for reaching climax, and no correlation between values of peak pressures during bearing efforts seem and pelvic floor post-delivery functional problems.

Concluding message:

Total area of peak pressure developed during bearing efforts of the second phase of labor has no correlation with baby's weight and mode of delivery, and a weak but significant correlation with some pelvic floor complaints described by women 14 months after delivery. Values of peak pressures during bearing efforts have no correlation with these latter parameters.

Specify source of funding or grant	Comission for Technology Innovation (CTI) CTI: The Innovation Promotion Agency, Effingerstrasse 27, CH-3003 Berne, Switzerland
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	Ethic's comitee of Lausanne University : approval Nber 197/06
Was the Declaration of Helsinki followed?	Yes
Was informed consent obtained from the patients?	Yes