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Velasco J C[1], Vizcaino F[2]
1. *Cemic.Universitary Hospital,* ***2.*** *Cemic Universitary Hospital*

URINARY INCONTINENCE IN PUERPERAL PERIOD

Hypothesis / aims of study

In this study we want to evaluate de prevalence of urinary incontinence during the puerperal period in a Latin American population.

Study design, materials and methods

Participants were 350 patients, who had various types of deliveries. Patients were interviewed on postpartum day 2 or 3 with a written form. Among this group, 50 written surveys were non evaluable for various reasons, being physical compromise the most frequent. The main outcome was urinary incontinence **(UI)** of any kind. Secondary outcomes were: number of gestations, parity, mode of delivery, maternal history of incontinence, disuria, urinary urgency, more than 5 micturitions per day, **UI** without effort, more than 2 micturitions by night, need of uroculture in the last year, family history of **UI**, family history of enuresis, UI while laughing (giggling), social restriction in association with **UI**, and relationship with previous pregnancies and deliveries. Not all the patients answered correctly, analysis was done in evaluable ones. A multivariated logistic regression analysis was done trying to identify independently related variables with UI. STATA 6.0 .1984-1989 Statistics Analysis Stata –Corporation Texas 1 –USA., was the software utilized.

Results

To the question : ***have you involuntary urinary incontinence*** , there was a positive answer ***in 68 over 300*** , yealding a ***23 % prevalence***. Analisys of this subgroup **(UI positive**) shows:

- That 49 over 61 (80%) answered UI was related with fisical activity and with coughing.
- That 6 over 54 (11%) have restricion on social activities .
- That 5 over 38 (9%) UI was withou any effort .
- That 7 over 55 (12.73%) UI had no relationship with urgency simptoms.
- That 14 over 37 (38%) IU begun after first pregnancy and or delivery.
- That 8 over 30 (27%) get worse in the ulterior pregancy (not primiparas)
- That with a 5% incidence of forceps delivery there was no association demonstrable with UI.

Univariate analisys showed an inverse relationship with cesarean frecuency .Table01.

NUMBER OF C. SECTIONS		**URINARY INCONTINENCE**		**TOTAL**
		NO	YES	
0		145 (73,60%	52 (**26,40%**)	197 (100%)
1		38 (80,85%)	9 (**19,15%**)	47 (100%)
2		18 (90%)	2 (**10%**)	20 (100%)
3		14 (93,33%)	1 (**6,67%**)	15 (100%)
Total		215 (77,06%)	64 (22,94%)	279 (100%)
				P: 0,119 NS

Both groups had urinary frecuency (more than 5 voids per day) 18/282 (6 %), nocturia in 49/289 (16%) and mother incontinence in 33/275 (8%). Table 03 shows that each pregnancy adds a 45% risk of having UI, and simmilarly any number of cesarean section diminish that risk in 45 % , on logistic regression analisys . Other results were: Mother history of UI 3 times and risk with and laughing (giggle) **UI** 18 times. More than twice nocturnal emision of urine is associated with triplication of risk.

TABLE-02 ***Relationship of variables with puerperal UI***

	CONTINENCE	**INCONTINENCE**	***P***
Disuria	7/211 (53.85%)	6/67 (46.15%)	NS
Urgency	3/215 (16,67%)	15/67 (83,33%)	**0,0001**
Frecuency > 5 daily micturitions	79/223 (68,10%)	37/66 (22,84%)	**0,003**
Frecuency > 2 nocturnal micturitions	31/223 (63,27%)	18/66 36;73%	**0,011**

Uroculture in last 12 menses	101/218 (73,72%)	36/67(26,28%)	NS
Mother history of UI	17/216(51.52%)	16/59 (48.48%)	**0,0001**
Other related siblings	10/146 (66.67%)	5/40 (33,33%)	NS
Nocturnal enuresis personal history	10/207 (55,56%)	8/57 (44,44%)	**0,015**
Louphing (giggle) UI	4/203 (20%)	16/59 (80%)	**0,0001**

NS: No significance

Forceps delivery , with a frecuency of 5% in both groups, was not significantly associated with **UI** (p=0.064)

Table 03. Logistic regression over : 1-Nº of pregnancies, 2-Nº sections, 3-urgency simpton, 4-maternal UI, 5- giggle UI , 6-nocturia x 2 or+,

Pearson chi 2(1)= 41,0032 Pr= 0,000

xi: logistic p1 gesta p20 p22 p26 p31 p24

UI	**odds ratio**	**SD**	**95% IC**	
Nº pregnancy	1.46	0,27	1.01	2.11
C.sections	0,54	0,16	0,3	0.97
Urgency	23,96	21.13	4.25	135.01
Maternal UI	2.85	1.42	1.06	7.59
Giggle UI	18.60	16.64	3.22	107.43
Nicturiax 2or+	2.87	1.40	1.09	7.49

Logistic model for p1

Area under ROC curve = 0.8114

Interpretation of results

Study results support the conclusion that childbirth, specifically vaginal birth, is a factor in developing UI in the early postpartum period. Cesarean section could be a protective factor. Maternal UI is an important element to be considered. Giggling incontinence must be asked since is a strong predictor of UI. The association of the symptom UI with physical strain, and giggling UI, with our generally reported UI, strongly suggest stress incontinence. Multiparity shows a relative risk 50% (OR: 1.46-1.01/2.11). The prevalence's rate found in this research is in accordance with the reported prevalence on most papers on the subject.

Concluding message

More studies are needed to recognize risk factors related to lifestyle and obstetric practices in order to identify high risk patients for urinary incontinence and modify those factors.

References

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Is this study registered in a public clinical trials registry?	**Yes**
Specify Name of Public Registry, Registration Number	**CEMIC -2009/33**
Is this a Randomised Controlled Trial (RCT)?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**Cemic ethics committee**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**