TRANSVAGINAL SONOGRAPHIC EVALUATION OF THE CERVIX IN PREGNANT WOMEN IN PRETERM LABOR

M.C.A. Maia, R.M.Y. Nomura, F.T.S. Mendonça, L. M. Rios, A. F. Moron
Department of Obstetrics, Paulista School of Medicine, Federal University of São Paulo, São Paulo, Brazil

Objective:

To evaluate, by transvaginal ultrasound, the cervix in pregnant women in preterm labor.

Methods:

95 women with singleton pregnancies and intact membranes with the diagnosis of preterm labor between 25w and 34w6d of gestation. Transvaginal ultrasound was performed and we analyzed the following variables: cervical length in millimeters, zeta score of cervical length, presence of funneling signal, absence of cervical glandular echo and presence of sludge. There were evaluated the birth within seven days, before 34w and 37w of gestation.

Results:

The median gestational age at admission was 31.9w (range between 26w and 34w6d). The median cervical length at diagnosis of preterm labor was 22.3 mm (range 0 to 42.8 mm). The cervical length were considered short by zeta score 60% of the cases. There was funneling sign in 27.4%, absence of glandular echo in 55.8% and presence of sludge at 6.3%. The delivery occurred within seven days of hospital admission in 13 (13.7%) cases. Delivery before 34 weeks occurred in 16 (16.8%) cases and 40 before 37 weeks (42.1%) cases. Logistic regression analysis showed as independent significant predictor of delivery within seven days the cervical length in millimeters (OR 0.918, 95% CI ranging from 0.862 to 0.978; p = 0.008). For birth before 34 weeks gestational age at admission (OR 0.683, 95% CI ranging from 0.539 to 0.866; p = 0.002) and before 37 weeks, the presence of funneling sign (OR 3.778, 95% CI ranging between 1.460 to 9.773; p = 0.006).

Table 1- Univariate analysis in 95 women in preterm labor (25 to 34 + 6 weeks) in the prediction of delivery within 7 days of presentation, before 34 and 37 weeks' gestation.

Variable	Total	Delivery within 7 days (n = 13/95 (13,7%))		Delivery before 34 weeks (n = 16/95 (16,8%))		Delivery before 37 weeks (n = 40/95 (42,1%))	
	Results (n = 95)	Median (range) or n (%)	p	Median (range) or n (%)	p	Median (range) or n (%)	p
Age, years	21 (20 a 23)	24 (16 a 28,9)	0,828	22,5 (16,0 a 29,7)	0,823	22 (20 a 25)	0,645
Parity							
0	43 (45,3%)	8 (61,5%)	0,205	8 (50,0%)	0,676	17 (42,5%)	0,645
≥ 1	52 (54,7%)	5 (38,5%)		8 (50,0%)		23 (57,5%)	
History of prematurity							
No	70 (73,7%)	11 (84,6%)	0,503	13 (81,3%)	0,077	30 (75,0%)	0,805
Yes	25 (26,3%)	2 (15,4%)		3 (18,7%)		10 (25,0%)	
Cervical length, mm	22,3 (19,2 a 25,0)	11,4 (3,4 a 21,3)	0,013	17,2 (3,5 a 26,1)	0,135	18,9 (11,4 a 24,0)	0,017
Cervical length, score zeta	- 1,32 (- 1,58 a - 0,97)	- 2,322 (- 2,875 a - 1,457)	0,008	- 1,850 (-2,833 a - 0,941)	0,047	- 1,637 (-2,264 a -1,252)	0,011
Funneling							
No	69 (72,6%)	7 (53,8%)	0,104	9 (56,2%)	0,109	23 (57,5%)	0,005
Yes	26 (27,4%)	6 (46,2%)		7 (43,8%)		17 (42,5%)	
EGE							
No	53 (55,8%)	10 (76,9%)	0,136	10 (62,5%)	0,556	28 (70,0%)	0,018
Yes	42 (44,2%)	3 (23,1%)		6 (37,5%)		12 (30,0%)	
Sludge							
No	89 (93,7%)	11 (84,6%)	0,189	13 (81,3%)	0,058	36 (90,0%)	0,211
Yes	6 (6,3%)	2 (15,4%)		3 (18,7%)		4 (10,0%)	
Gestacional age in preterm labor, weeks	31,9 (31,2 a 32,3)	31 (27,4 a 33,2)	0,247	29,7 (28,5 a 31,3)	< 0,001	31,4 (30,0 a 32,0)	0,096

Median (IC 95% da mediana), n (%), EGE: endocervical glandular echo

Conclusions: The evaluation of the cervix by transvaginal ultrasound in pregnant women in preterm labor was able to predict delivery within seven days and help to distinguish between true and false labor.