



The value of the angle of progression in the prediction of vaginal delivery in pregnancies at term

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Objective

The objective of this study was to assess the use of the angle of progression (AOP) before onset of labor measured by transperineal ultrasonogram in the prediction of vaginal delivery in pregnant women at term.

Methods

Patients at term with a fetus in cephalic presentation were included. The AOP was measured at ≥ 38 weeks of gestation by transperineal ultrasound before onset of labor. The Bishop score was also calculated and the cervical length was measured transvaginally. Patients had a follow up until the onset of labor. The mode of delivery was recorded.

Results

A total of 186 pregnant women were included in the analysis. One hundred and forty-four (77.4%) patients delivered vaginally. The median AOP for this study group was 100° . The adjusted risk ratio (aRR) of vaginal delivery in patients who had an AOP $> 100^\circ$ was 1.48 (95% CI: 0.71-3.07; $p = 0.292$). A cervical length more than 25.0 mm decreased the chance of vaginal delivery with an aRR of 0.71 (95% CI: 0.35-1.45; $p = 0.354$). While a Bishop score ≥ 5 increased the chance of vaginal delivery with an aRR of 1.14 (95% CI: 0.51-2.55; $p = 0.737$). However, a statistically significant correlation was not found in the measurement of the AOP, cervical length and the Bishop score before onset of labor in the prediction of vaginal delivery.

Conclusion

A larger angle of AOP > 100 degrees at term, a cervical length less than 25 mm and a Bishop score ≥ 5 before the onset of labor were highly correlated to a vaginal delivery but these findings were not statistically significant in the prediction of vaginal delivery.