

Antenatal macrosomia prediction using sonographic fetal abdominal circumference in South Tunisia

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Abstract

Introduction: Identifying newborns who weight 4000 g or more is important because birth of macrosomic fetuses is associated with adverse peripartum outcomes. Ultrasound is widely used for this purpose. Our objective was to evaluate the diagnostic value of sonographic measurement of fetal abdominal circumference (AC) over 350 mm for the prediction of fetal macrosomia and shoulder dystocia, to specify factors that could generate errors in its measure.

Methods: A retrospective clinical trial was conducted at the Department of Obstetrics and Gynecology, Hédi Chaker Hospital, Sfax, Tunisia. The study consisted of comparing two groups of singleton newborns: the first group (n=465) includes macrosomic babies and the second group (n=465) includes the non macrosomic ones. All women underwent sonographic measurements of the fetal abdominal circumference (AC) within 72 hours before delivery. The AC values were correlated to actual fetal birth weight. The cut-off value of AC for predicting of fetal macrosomia was analyzed.

Results: A cut-off value of abdominal circumference ≥ 350 mm, in predicting of fetal macrosomia, had a sensitivity, specificity, accuracy, positive predictive value, and negative predictive value : 78.7%, 76.8%, 77%, 92.6%, and 49.2%, respectively. In macrosomic group obesity was significantly more frequent when $AC < 350$ mm ($P < 0.001$). All neonates presenting shoulder dystocia had an $AC \geq 350$ mm.

Conclusion: The fetal AC measurement was useful in predicting of fetal macrosomia. An AC measurement $AC \geq 350$ mm could help to suspect shoulder dystocia.

Introduction
