Sonographic assessment of fetal head position during the first and second stage of labor for the prediction of persistent occiput posterior position and labor dystocia

Sae Kyung Choi, Ju Yeon Kim, Jeong Ha Wie, Hyun Sun Ko, In Yang Park, Jong Chul Shin

Department of Obstetrics and Gynecology, College of Medicine, Catholic University of Korea

Objective: The aim of this study was to perform a preliminary investigation into the predictive values of the position of the fetal occiput measured during the first and second stages of labor by intrapartum ultrasound for persistent occiput posterior (OP) position and labor dystocia.

Methods: This was a prospective cohort study, in which 148 primiparous women with singleton pregnancies were enrolled. The women underwent intrapartum transabdominal sonography and the positions of the fetal head were recorded during the first and second stage of labor. We analyzed the correlation between the position of fetal head and labor course and perinatal outcomes. Statistics were performed using SAS 9.2.

Results: 148 pregnancies were evaluated in the first stage of labor, with 126 of these also evaluated in the second stage. 22 pregnancies were not evaluated during second stage because they underwent Cesarean section during the first stage. 51 of 148 fetuses (34.5%) were found to be in an OP position during the first stage of labor. There were 8 cases of OP position during the second stage, and 6 of these (75.0%) were among the 51 fetuses that were found to be in an OP position during the first stage of labor. 19 of 51 cases with OP position during the first stage of labor (37.3%) and 2 of 8 cases with OP position during the second stage of labor (25.0%) underwent Cesarean section owing to arrest disorder. The rates of Cesarean section in OP position group were significantly higher than those in OA position and OT position group (p=0.0024, 0.0374). Perinatal complications occurred more frequently in OP position group than OA position and OT position groups. But there was no statistically significant correlation.

Conclusion: The results of this study suggest that the position of the head during the first and second stage of labor could be useful indicators for predicting the persistent OP position and labor dystocia. Studies with larger sample sizes are needed to confirm these results.

The implications of serial abdominal circumference measurements for predicting normal fetal growth in gestational diabetes mellitus

손가현, 이백, 조희영, 권자영, 김영한, 박용원

연세대학교 의과대학 산부인과학학교실

Objective: Our purpose was to determine the predictability of fetal normal growth according to the period of ultrasound examinations in patients with gestational diabetes mellitus (GDM).

Methods: Women with GDM who performed ultrasound at 4-6 week intervals were included. Maternal risk factors (parity, prepregnancy body mass index and weight gain during pregnancy) associated with fetal overgrowth were analysed.

Results: A total of 764 ultrasound examinations were performed on 378 patients. 80 (21.2%) women of the 378 patients delivered large for gestational age (LGA) newborns. 7.7%, 30.7% and 61.5% of fetuses were born LGA newborns when abdominal circumference was more than 90th percentile at 19-24 weeks, 25-29 weeks and 30-35 weeks, respectively. However, 80.3 %, 84.0 % and 87.9 % of fetuses were born non-LGA neonates when abdominal circumference was less than 90th percentile at 19-24 weeks, 25-29 weeks and 30-35 weeks, respectively, and 89.1 % were born non-LGA when both scans at 19-24 weeks and 25-29 weeks showed normal growth.

Conclusion: The predictive ability of a non-LGA neonate did not increase significantly with serial abdominal circumference measurements after the finding of a fetal abdominal circumference less than 90th percentile at both 19-24 weeks and 25-29 weeks.