

Ultrasonographic evaluation of placental cord insertion at different gestational ages in low-risk singleton pregnancies: a predictive algorithm.

Autori: Padula F, Laganà AS, Vitale SG, Mangiafico L, D'Emidio L, Cignini P, Giorlandino M, Gulino FA, Capriglione S, Giorlandino C

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ABSTRACT

OBJECTIVE: To evaluate the accuracy of ultrasound in visualizing placental cord insertion (PCI) at different gestational ages in order to recommend the most feasible period during pregnancy to identify it. Secondary aim was to propose a predictive algorithm for PCI visualization.

METHODS: We performed a single-center, prospective cohort study. We enrolled patients with singleton low-risk pregnancies who underwent fetal ultrasound scan at different gestational ages. We excluded patients with body mass index of 30 Kg/m² or more, uterine fibroids larger than 5 cm, high-risk pregnancies, fetal weight lower than < 10° percentile or higher than > 90° percentile, increased ("deep pocket" > 80 mm) or decreased ("deep pocket" < 20 mm) amniotic fluid.

RESULTS: Among the 468 recruited patients, the visualization of PCI was not possible in 5.77% of the cases. Furthermore, we showed that PCI visualization was lower as the gestational age increased ($p = 0.049$) and more difficult in case of posterior placenta ($p = 0.001$).

CONCLUSIONS: PCI should be evaluated in the first trimester or as early as possible during the second trimester. Moreover, we propose a feasible model to predict the possibility of PCI visualization according to gestational age and uterine site of implantation.