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Macroscopic placental parameters of healthy, term newborns delivered to healthy mothers in a tertiary care centre in Sri Lanka: is it high time to develop our own placental charts?

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Introduction and objectives: Placental pathology serves as a window into pregnancy complications and adverse pregnancy outcomes. This study investigates the common placental abnormalities associated with adverse pregnancy outcomes.

Methodology: Singleton placentas reported at the Department of Pathology, University of Colombo from January 2022 to March 2024 were retrieved (n=110). Statistical analysis was performed using SPSS v26.0.

Results: Mean age of the study population was 29.85 years (range: 17-42) and the mean period of gestation (POG) was 29.61 weeks (range:12-40). Majority were stillbirths (n=43,39.1%) followed by neonatal deaths (n=7,6.4%) and second trimester miscarriages (n=22,20.0%). The placental weight was <10th centile for POG in 61 (63.5%). Hematomas/thrombi were present in 27 (25.2%) at retroplacental (n=20,18.7%), marginal (n=6,5.6%) and intervillous (n=1,0.9%) positions. Evidence of ascending infections was present in 62 (56.9%), including chorioamnionitis (n=40,36.7%), funisitis (n=19,17.4%), chorionic plate vasculitis (n=12,11.0%) and villitis (n=2,1.8%). Chronic inflammation was present in one placenta (0.9%). Maternal vascular malperfusion was present in 58 (54.2%) including infarctions (n=30,28%), intervillous fibrin deposition (n=16,15%), advanced maturation of villi (n=27,25.2%), distal villous hyperplasia (n=6,5.6%) and decidual arteriopathy (n=9,8.4%). Foetal vascular malperfusion was present in 14 (13.1%) including umbilical cord thrombosis (n=2,1.9%), thrombosis (n=7,6.5%) and intimal fibrin cushions (n=1,0.9%) in foetal vascular branches and segmented avascular villi (n=2,1.9%). A true knot was present in the cord of one (0.9%).

Discussion and conclusion: The results show the importance of placental pathological examination in identifying causes of adverse pregnancy outcome. Placental pathology was found in the majority of cases with adverse foetal outcomes. Small for POG, maternal vascular malperfusion and ascending infection were the common pathological findings.

Keywords: placenta, pathology

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