

Correlation between uterine artery blood flow in the first and second trimester of pregnancy and birth weight at high altitude: a preliminary study.

Villamonte-Jerí Alexandra^{1,2}, Villamonte-Calanche Wilfredo².

[1] School of Human Medicine, Science Faculty, Andina of Cusco University.

[2] Research Center of Perinatal Medicine, Scientific Institute, Andina of Cusco University.

Objective

To determine the correlation between the increase in uterine artery blood flow (UtAQ) from 11-14 weeks to 19-24 weeks of gestation and birthweight (BW) at term under conditions of hypobaric hypoxia (HH).

Methods

A prospective study was conducted at an altitude of 3400 m in 120 women receiving routine prenatal care. The inclusion criteria were singleton pregnancies evaluated at 11-14 and 19-24 weeks of gestation in women born and raised at high altitude (HA) without any pathology. The outcome was BW, expressed as a Z score. Variables such as UtAQ, uterine artery (UtA) diameters, among others, were evaluated.

Measurements of UtAQ and UtA diameter were obtained transvaginally using ultrasound.

Results

No correlation was found between changes in UtAQ and UtA diameters from the first to the second trimester, and the Z score of BW at term. Likewise, a correlation was found between maternal weight ($r = 0.198$, $p = 0.031$) and diastolic blood pressure in the second trimester with BW at term ($\rho = 0.192$, $p = 0.036$).

Conclusion

In singleton pregnancies of low-risk women born and raised at HA, there may not be a correlation between changes in UtAQ from 11-14 weeks to 19-24 weeks of gestation and BW at term under conditions of HH.

