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Ang1 immunoexpression vs vascular profile in chorio-villous germinative status in early term compromised pregnancies

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Abstract

Background: A normal maternal-fetal system is essential for the functioning of the placenta during placentation and the establishment of the maternal-embryo-fetal vascular circulation. The angiopoietin/TIE pathway is involved in vascular morphogenesis through regulation, survival and maturation of endothelial cells concomitant with vascular remodeling. Deregulation of pro-angiogenic factor secretion and expression is associated with disruption of vascular morphogenesis, reduction of vascular bed and installation of primary placental insufficiency. The aim: Evaluation of Ang 1 immunoexpression in early term compromised pregnancies in the context of chorio-villary circulatory dysfunction in primary placental insufficiency.
Material and methods: Abortion product from 61 patients (stagnant pregnancies – 39 cases, early miscarriage – 8 cases, control group – 14 cases of pregnancies solved on social indications/ desire) were immunohistochemically evaluated with the marker for anti-Ang1 and anti-CD31.
Results: The villous syncytiotrophoblast was the most immunoreactive area. Most of cases of the pregnancies terminated on social indications/ desire were anti-Ang1 negative. The levels of anti-Ang1 immunoexpression were statistically significantly different in case of syncytiotrophoblast of early miscarriages and abortions terminated on social indications/ desire. The highest chorio-villous vascular density was noticed in the abortions on social indications/ desire and early misscariages group.
Conclusions: The placental period is characterized by a weak angiogenic Ang1 differentiated cellular environment in the chorio-villous germinal site in the group of short term compromised pregnancies. The selectively immunoexpressed cellular profile statistically significantly correlates with placental vascular index and chorio-villous vascular density in stagnant pregnancies.
Key words: Ang1, angiogenesis, fetal conceptus, compromised pregnancies, primary placental dysfunction.

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