FEATURES OF LEPTINS LEVELS IN PREMATURE NEWBORNS WITH EXTREMELY AND VERY LOW BODY WEIGHT

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Backgrounds: Leptin is a hormone that regulates the energy metabolism, can also perform the function of pro-inflammatory cytokine, participating in the ripening of T-lymphocytes, maintaining the pool of NK-cells, chemotaxis and

activation of neutrophils. In premature newborns, the level of leptin may differ from the level of full-term children, due to anatomical and physiological conditions, in this way, the study of the level of leptin allows us to understand the mechanisms of adaptation and possible risks for predicting the further development of prematurely newborn.

Methods: The study included 59 prematurely newborns born in 2024-25 and received treatment at the RNPC «Mother and Child». The gestational age amounted to 27 (26-28) weeks, body weight (BW) at birth 940 (800-1100) g. In order to determine the role of leptin as a pro-inflammatory marker in premature babies, they were divided into Gr1 (with a congenital infection, n=45) and Gr2 (without congenital infection, n=14). Blood sampling for leptin was produced from maternal blood, umbilical vein at the time of birth, as well as in the 1st, 3-5th day of life.

Results: When analyzing the level of leptin, among the mothers of premature newborns, the established correlations between adipocytokine in the blood at the time of childbirth and BW of the women in childbirth (r=0.61, p=0.043) were established, in children, the interconnections of the leptin level with BW z-score were observed in children on the first day of life r=0.55, p=0.050, BW centile r=0.56, p=0.047, the leght body (LB) r=0.50, p=0.034, LB z-score r=0.62, p=0.041, LB centile r=0.47, p=0.045. On the 3rd day, the correlations with BW centile r=0.54, p=0.038, LB z-score r=0.42, p=0.049, LB centile r=0.53, r=0.021 are noted. When determining the role of leptin as a proinflammatory marker, reliable differences between GR1 and GR2 were not established (p>0.05).

Conclusions/Learning Points: The level of leptin in mothers of premature babies correlates with the level of adipocytokine in the blood at the time of childbirth (r=0.61, p=0.043). In newborns on the 1-3rd day of life, the level of leptin is associated with BW (z-score, centile), LB, and their corresponding indicators at different time points. Leptin did not show significant differences between groups of pro-inflammatory status.

Материалы конференции

Бухара-2025