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Can insulin-like growth factor-1 (IGF-1) predict menstrual recovery in adolescents with anorexia nervosa (AN)?

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Aim: The aim of this study was to assess whether insulin-like growth factor-1 (IGF-1) can be a good predictor of menstrual recovery in girls with anorexia nervosa (AN).

Material & Methods: Prospective study of adolescents presented with anorexia nervosa (AN) and amenorrhea in our department. Anthropometric parameters, luteinizing hormone (LH), estradiol and IGF-1 levels were evaluated at the beginning and at the time of menstrual recovery, while all girls were being treated for nutritional recovery.

Results: Thirty eight adolescents with mean age 17.23±0.89 years, mean body mass index 16.67±2.46 Kg/m2, mean waist-hip ratio 0.77±0.12, mean waist circumference 0.67±0.09 m, mean LH 0.18±0.03 (IU/L), mean estradiol levels 23.46±5.77 pg/ml and mean IGF-1 levels 126.56±23.77 ng/ml, were included in our study. Mean years of menstrual recovery were 2.76±0.62. All hormonal profiles improved after resumption of menses and nutritional recovery, with IGF-1 correlating the most ($p<0.0001$), showing mean levels of 327.78±56.12 ng/ml.

Conclusions: IGF-1 plays a crucial role as a predictor of menstrual recovery, although there is a big list of other hormonal and anthropometric factors that should not be omitted during the evaluation and management of girls with AN.

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