Aim: To assess effects of the weight loss on the menstrual cycle irregularity, hormone and metabolic profile in severe obese women.

Patients and Methods: Twenty-one extremely obese women, aged 35.2±9.3 years, BMI 48.4±8.8kg/m2, were involved in the therapeutic program, which consisted of alternating very low calorie diet (VLCD) in a hospital and the low calorie diet (LCD) with dosed physical activity in outpatient conditions. At the baseline we evaluated: anthropometric parameters, menstrual cycle and sex hormones. After weight reduction by at least 10%, for average duration of 6 months, all mentioned assessments were repeated. Wilcoxon Signed Rank and McNemar tests were used.

Results: The mean weight loss was 19 kg or 14% of the initial weight (p<0.01), which was followed by a significant improve of the menstrual cycle regularities (33.3% v.s. 4.6% women with oligo/amenorrhea (p<0.01)), without the significant change in sex hormones, p>0.05 (FSH 8.5 v.s. 9.9 IU/L, LH 4.9 v.s. 5.2IU/L, estradiol 190.7 v.s.160.7pmol/L, testosterone 2.2 v.s.1.9nmol/L, androstenedion 2.2 v.s. 2.4nmol/L, DHEAS 8.7 v.s. 6.6nmol/L), except SHBG, p<0.5 (32.5 v.s. 42.9nmol/L).

Conclusion: The weight loss is the crucial for restoring menstrual cycle in severe obese women.