

Hematopoietic system three years after bariatric surgery

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OBJECTIVES

Bariatric surgery, especially malabsorptive procedures like gastric bypass, can lead to anemia due to lack of iron absorption as well as vitamins essential for the normal functioning of the hematopoietic system.

METHODS

We have analysed changes in red blood cells (RBC), hemoglobin (Hb), white blood cells (WBC), serum iron (Fe) and vitamin B12 three years after gastric bypass in 142 morbidly obese patients (female N=108, male N=34). All patients were on oral supplementation with 100mg of iron and 200-400mg of folic acid after surgery as well as 2500ug of OHB12, intramuscular injections every three months.

Before surgery average body mass index (BMI) was 43.9kg/m² and three years after BMI was 30.5kg/m² (p<0.001). Change in number of RBC was nonsignificant (4.65.9±1.31 vs. 4.42±1.12 x10¹²/L; p>0.05) before and after surgery. There was no difference in Hb concentration between two measurements (137.9± 15.5 g/L vs. 128.9± 16.3 g/L; p>0.05).

RESULTS

Number of WBC was lower after surgery (10.7±3.2x10⁹/L vs 5.7±1.3x10⁹/L) with significance: p>0.001, but among reference range. Serum iron level increased after surgery but that was not significant (11.4± 1.3umol/L vs. 13.03±1.8umol/L; p>0.05). B12 vitamin level remained within normal range three years after gastric bypass (922.5±212.2 pmol/L vs. 866.7±201.1pmol/L; p>0.05) without difference.

CONCLUSIONS

Even gastric bypass is malabsorptive bariatric procedure, with adequate supplementation of iron, folic acid and vitamin B 12, this procedure does not affect blood count and levels of vitamin B 12 during three years follow up period.

References

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