

Matrix metalloproteinases: a possible new marker of the effectiveness of bariatric surgery

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Abstract

Matrix metalloproteinases (MMPs) are known enzymes involved in the modulation of extracellular matrix (ECM) and adipocyte and preadipocytes differentiation. Obesity implies a more or less rapid but generalized increase in adipose tissue (adipocyte and preadipocytes) and this processes generate abnormal ECM metabolism.

Aim: This study purpose was to determin if we can consider MMPs as a marker of effectiveness in bariatric surgery.

Materials and methods: The experimental study used 20 obese wistar rats (10 in control group and 10 in Study group). The study group had gastric by-pass for obesity, and there were analysed the pre and post operative MMP-2 and MMP-9. We compared the results in order to see if bariatric surgery modifies the MMPs status and if there is a correlation between the weight loss and the values of MMPs.

Results: The MMP-2 and MMP-9 activities were detectable, but MMP-2 activity was significantly higher than MMP-9. MMP-9 was strongly correlated with body weight parameters before surgery, as well as after significant body weight reduction as a result of bariatric surgery. There is a strong correlation between a greater weight loss and the values of MMP-2.

Conclusions: MMP-2 and MMP-9 are the two most important proteins of ECM involved in adipose tissue remodeling after bariatric surgery. Although we believe that more in-depth studies are required,

MMPs may be considered a marker of the effectiveness of bariatric surgery and weight loss.

Biography:

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