

STRESZCZENIE W JĘZYKU ANGIELSKIM – ABSTRACT

Efficacy and Safety of Enhanced Recovery after Bariatric Surgery Protocol (ERABS)

BACKGROUND

Obesity has been known since the beginning of time, but in the past mainly the wealthy were affected by it. It was regarded as a determinant of social status. Nowadays the problem of morbid obesity affects growing percentage of population each year. In these days, problem of obesity is not discriminating anyone, as it affects poor as well as wealthy people. As for today, a third of the global population is affected by overweight and obesity, and this problem is growing.

The bariatric surgery is known for being the main method of treatment of morbid obesity and its comorbidities. This relatively new field of surgery is evolving in search of the most effective bariatric operation. In recent years laparoscopic sleeve gastrectomy (LSG) has gained the biggest popularity.

Despite the high efforts in fight with obesity epidemics, we still fail to gain advantage. One of the solutions could be implementation of special perioperative protocols in the bariatric centers worldwide. In recent years, enhanced recovery after bariatric surgery (ERABS) protocol is the one attracting most of attention. It is crucial for those operations to be effective and safe as those are performed in huge amount worldwide.

OBJECTIVES

1. To evaluate safety of ERABS protocol.
2. To evaluate efficacy of weight loss when ERABS protocol is implemented.
3. To analyze the impact of ERABS protocol on length of hospital stay, time of operation and frequency of additional medical procedures application.

MATERIALS AND METHODS

This publication describes 150 patients operated in General and Transplant Surgery Clinic of Warsaw Medical University. They were operated for morbid obesity and LSG was performed in every case. Two groups were separated – each consisting of 75 patients. Standard perioperative protocol for the Clinic was used in the control group and the ERABS protocol was implemented in the experimental group. Afterwards anthropometric parameters, frequency of additional medical procedures, efficacy of weight loss and postoperative complications incidence were analyzed.

RESULTS

Anthropometric parameters (including gender, age, weight, height and BMI) analysis showed no statistically significant differences between the groups. Also, comparison of occurrence of the most common comorbidities (hypertension, diabetes mellitus and chronic obstructive pulmonary disease) between the groups showed no significant differences. These results lead to conclusion that control and experimental groups are homogeneous.

Significant differences were found when analyzing frequency of additional medical procedures, such as usage of urinary catheter, peritoneal drainage after the operation and upper gastrointestinal series (UGI) study on the first day postoperatively. Those were equal to 100,00% and 0,00%, 100,00 and 17,33% and 100,00% and 13,33% for the control and experimental group, respectively. Comparison of operative time showed also significant differences in favor of the experimental group and it was equal to $107,87 \pm 29,28$ min and $85,64 \pm 32,30$ min of operative time and $139,20 \pm 27,95$ min and $120,09 \pm 31,85$ min of whole procedure time (with analgesia). One of the most important changes in the ERABS protocol was introduction of the balanced fluid therapy. Intravenous volumes of fluids administered for the control and experimental group were equal to $1496,67 \pm 536,78$ ml and $801,33 \pm 260,19$ ml of fluids during the surgery, $2725,33 \pm 763,68$ ml and $1801,47 \pm 344,59$ ml of fluids in the postoperative period and $4222,00 \pm 1169,87$ ml and $2602,80 \pm 445,48$ ml of total fluids administration on the day of operation. Postoperative vomiting was more frequent in the experimental group

comparing to the control group (8,00% vs 14,67%), but this difference was not statistically significant. Implementation of ERABS protocol led to the shortening of length of hospital stay in the experimental group. It was equal to $3,16 \pm 0,4$ days in comparison to $4,29 \pm 0,83$ days in the control group. This difference was statistically significant. Analysis of weight loss effects of LSG in both groups showed no significant difference. Noticeable fact is, that percentage of excess weight loss (%EWL) on the twelfth month after the surgery was equal to $66,94 \pm 17,73\%$ for the control group and $68,86 \pm 17,92\%$ for the experimental group. Frequency of postoperative complications was reported using Clavien-Dindo classification. It was equal to 4,00% and 2,67% of stage II complications and 4,00% and 1,33% of stage III complications in the control and experimental groups, respectively. This difference was not statistically significant.

CONCLUSIONS

1. Implementation of ERABS protocol did not lead to the increase of postoperative complications in comparison to the previous perioperative protocol (according to Clavien-Dindo classification). Implementation of ERABS protocol is safe.
2. Efficacy of postoperative weight loss was equal in the control and experimental group.
3. Implementation of ERABS protocol lead to shortening time of operation and length of hospital stay. Safe resignation from several additional medical procedures is possible when ERABS protocol is used.