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Nutritional support for patients under the ERAS protocols during TAPP in wartime and the COVID-19 pandemic

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Abstract: *the problem of rapid recovery, reduction after surgical stress is becoming more relevant every day, so we propose to consider the impact of sip feeding nutritional support under the ERAS protocols in patients with inguinal hernias. This study used the method of interviewing 41 patients who were treated at the Department of General Surgery №2 NMU named after O.O. Bogomolets, a planned TAPP operation was performed using ERAS and sip feeding nutritional support (group 1) and comparison of the obtained data.*

Key words: inguinal hernia, enteral nutrition, rehabilitation.

Introduction

In our time, the implementation of ERAS protocols in the practice of Ukrainian surgeons during wartime has become even more important in order to change the issue of rapid recovery after surgery during the COVID-19 pandemic to quickly return the patient to a quality daily life. Against the background of stress, many chronic diseases are exacerbated. Patients with inguinal hernias often have the following symptoms: abdominal and genital pain, both at rest and during exercise, possible constipation and urination problems, sleep disturbances, intermittent bloating, constant threat of hernia compression and transition from the planned situation in the emergency.

Methods

We analyze recommendations ESPEN (Weimann, A., Braga, & Singer, P. (2021)) and ASPEN (Mechanick, J. I., Carbone, S., & McKeever, L. (2021)) and understand that early additional support with enteral nutritional like sip feeding can help enhance recovery after operations, because sip feeding consist of microelements, proteins, carbohydrates, vitamins. We add sip feeding 6 and 18 hours after operation. We want to compare the results of the application of sip feeding in patients with inguinal hernia who underwent TAPP and patients without nutritional support in patients with inguinal hernia who also underwent TAPP.

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Surgical interventions were performed on the Department of General Surgery №2 NMU O.O. Bogomolets.

This study involved 41 patients who underwent laparoscopic preperitoneal hernioplasty (TAPP) using ERAS protocols (Sánchez C, A., & Papapietro V, K. (2017)), which were divided into 2 groups:

1. Group 1 - 21 patients who received additional support with sip feeding under the ERAS protocols.
2. Group 2 - 20 patients without nutritional support, but in compliance with other ERAS recommendations.

We found that for patients, the length of stay in the hospital depends on the body's stress response to surgery. Patients in the first 24 hours after surgery completed a questionnaire (Table 1), which assessed such indicators as pain (VAS scale), hunger, thirst, general weakness, depression, rated from 0 to 10 points on the VAS analogue, (where 0 - no manifestations, 10 - very strong manifestations), nausea / vomiting, bloating, flatulence, the presence of stool (assessed by the presence or absence of manifestations of dyspeptic syndrome).

Student's T test for parametric data and Wilcoxon T test for nonparametric data were used for statistical analysis.

Results

Visualization of data is given in the table "Assessment of the impact of nutritional support in TAPP" (Table 2).

Table 1. Questionnaire to assess the impact of nutritional support in patients in the first 24 hours

Exponent	Point
Pain	1 2 3 4 5 6 7 8 9 10
Nausea Vomiting	was/wasn`t
Bloating	was/wasn`t
Hunger	1 2 3 4 5 6 7 8 9 10
Thirst	1 2 3 4 5 6 7 8 9 10
Passage of flatus	was/wasn`t
Stool	was/wasn`t
Weakness	1 2 3 4 5 6 7 8 9 10
Depression	1 2 3 4 5 6 7 8 9 10

Discussion

Analyzing the results of data obtained after a survey of patients with inguinal hernias with and without nutritional support after TAPP observed in the group 1 unidirectional changes for improvement, but only pain (VAS, 24 hours after surgery) was statistically significant (0.001) pain in the group 1 up to 3.1 (95% CI 2.64-3.50), bloating in the group 2 averaged 5.55 in the group 2, using nutritional support - 3.0 95 % CI 2.74-3.83), which indicates a statistically significant difference. Analyzing the presence of nausea and / or vomiting in the group 1, the indicator was observed in only 3 patients, the difference also reached the level of statistical significance. For other indicators such as: no hunger, general weakness, depression, flatulence, stools, thirst - improvement in the group 1, these indicators were slightly better, but did not reach the degree of statically significant difference (P> 0.05). The data obtained indicate the effective use of nutritional support under the ERAS program for patients with TAPP.

Conclusion

We obtained data that reflect the positive effects of sip feeding for patients, which contributes to:

1. Reduction of bed-day in patients.
2. Reducing the intensity of dyspeptic manifestations.
3. Early normalization of gastrointestinal tract.
4. Early activation of patients.

Financing

This study did not receive external funding.

Conflict of interest

There was no conflict of interest among the authors of the study.

Consent to publication

All patients have previously confirmed their written consent to participate in this study.

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Table 2. Analysis of the results of the use of nutritional support in patients with TAPP

Exponent	Group 1 N=21	Group 2 N=20	P
Pain	3,1±1,10	5,4±1,31	<0,001 *
Nausea Vomiting (was/wasn`t)	3,28±1,19	5,65±1,30	0,323 *
Bloating (was/wasn`t)	3,0±1,5	5,55±1,25	<0,001 *
Hunger	3,38	5,75	0,983 *
Thirst	1,72	5,3	0,983 *
Passage of flatus (was/wasn`t)	3 (14,2%) /18 (85,8%)	11 (52,3%) / 9 (47,7%)	0,017 **
Stool (was/wasn`t)	2 (9,5%) / 19 (90,5%)	3 (14,3%) / 17 (85,7%)	0,952 **
Weakness	2 (9,5%) / 19 (90,5%)	0/20(100%)	0,476 **
Depression	6 (28,6%) /15 (71,4%)	9 (47,7%) / 11 (52,3%)	0,446 **

Note:

* *data are presented as M ± SD, the distribution of data does not differ from normal, when comparing indicators between groups used Student's t-test of two independent samples.*

** *data are presented as abs. (%), the distribution of data differs from normal, when comparing indicators between groups used the method of Fisher's Angular Transformation (taking into account the Yates correction).*

A – Research concept and design,
B – Collection and/or assembly of data,
C – Data analysis and interpretation,
D – Writing the article,
E – Critical revision of the article,
F – Final approval of article

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Нутритивна підтримка пацієнтів в рамках ERAS протоколів під час проведення TAPP в умовах воєнного часу та пандемії COVID-19

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Анотація: проблема швидкого відновлення, редукції після операційного стресу з кожним днем набувають все більшої актуальності, тому ми пропонуємо розглянути вплив сіпінгової нутритивної підтримки в рамках ERAS протоколів у пацієнтів з паховими килами. У даному дослідженні використано методику опитування 41 пацієнта, які лікувались на кафедрі Загальної Хірургії №2 НМУ імені О.О. Богомольця, було проведено планову операцію TAPP з використанням ERAS та сіпінгової нутритивної підтримки (група 1) та порівняння отриманих даних.

Ключові слова: пахова кила**,** ентеральне харчування**,** реабілатація**.**