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IMPROVEMENT OF STAPLE LINE REINFORCEMENT METHODS AND EVALUATION OF THEIR EFFECTIVENESS

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Abstract:

The aim is to improve the results of using staple sutures (SS).

Keywords:

RELEVANCE OF THE TOPIC: no reinforcement staple lines (SL) continue to face issues such as bleeding and SL leaks, in this connection, there are questions: is it necessary to reinforce staple line, what methods of reinforcement should be followed to, how to deal with the above complications. Extensive meta-analysis of randomized controlled trials (RCT) conducted by Diab et al. in 2023 compared oversuturing with the use of staple line reinforcement techniques, it demonstrated that oversuturing was effective in reducing the frequency of postoperative bleeding, SL leaks, and the necessity for repeated surgeries. However, suturing across all layers, which previously gave better results than other suture may be reassessed due to the reduced risk of complications regardless of the reinforcement method. Furthermore, it is stated that SL reinforcement can lead to bleeding and leakage due to rupture at the penetration point of the suture thread, and a passing seam can lead to sleeve stricture and tissue ischemia. Ultimately, improvements and new technologies in suturing introduce uncertainty regarding the benefits of reinforcement. Therefore, further researches are needed on the impact of these techniques on the need to reinforce staple line.

OBJECTIVE OF THE STUDY:
The aim is to improve the results of using staple sutures (SS).

MATERIALS AND METHODS:
The study was conducted based on clinics of the department of surgical diseases in family medicine at City Med Clinic, INVIVO, and the 1st city clinical hospital named after Abu Ali ibn Sina.
An analysis of RCT was performed to compare various methods of SL reinforcement or no-reinforcement ST.

RESULTS:
A total of 515 patients participated in the study, undergoing SLEEVE gastrectomy and minigastroshunt surgery. After applying the staple lines: 100 patients with reinforced SL sero-serous technique, 100 patients with reinforced SL sero-muscular technique, 100 patients with suturing across all layers (Oversuturing), 100 patients underwent SL reinforcement using the omentopexy technique, 100 patients with no-reinforcement SL , 15 patients had chemicals for additional hemostasis. Sero-serous reinforcement resulted in no complications, sero-muscular reinforcement had 2 cases of leakage, oversuturing led to 2 cases ofleakage 2 intragastric bleedings, and 8 intraperitoneal bleedings, omentopexy resulted in 1 intragastric and 1 intraperitoneal bleeding, no reinforcement resulted in 7 intraperitoneal bleedings, the use of chemical agents caused 1 intraperitoneal bleeding. It follows that for the prevention of postoperative complications (leaks, intragastric and intra-abdominal bleeding) sero-serous reinforcement SL in Sleeve Gastrectomy and Mini Gastric Bypass, we found the most optimal option.

CONCLUSION:
Stitching of the stapler line with a sero-serous suture is less traumatic for the layer structure of the stomach wall and less aggressive in relation to the vascular pattern of the stomach wall, compared to sutures through all layers, which can lead to intragastric bleeding; or a serous-muscular suture, in which there is a high risk of haematomas of the stomach wall, their cutting, which increases the risk of leakage in the area of the suturing.

REFERENCES:

1. Wang, Zhaoming, et al. "The efficacy of staple line reinforcement during laparoscopic sleeve gastrectomy: a meta-analysis of randomized controlled trials." *International Journal of Surgery* 25 (2016): 145-152.
2. Gagner, Michel, and Jane N. Buchwald. "Comparison of laparoscopic sleeve gastrectomy leak rates in four staple-line reinforcement options: a systematic

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review." *Surgery for Obesity and Related Diseases* 10.4 (2014): 713-723.

3. Albanopoulos, Konstantinos, et al. "Reinforcing the staple line during laparoscopic sleeve gastrectomy: prospective randomized clinical study comparing two different techniques. Preliminary results." *Obesity surgery* 22 (2012): 42-46.