

TACKERS VERSUS CYANOACRYLATE GLUE IN FIXATION OF MESH IN LAPAROSCOPIC INGUINAL HERNIA REPAIR, A PROSPECTIVE STUDY

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Introduction

The word "hernia" is derived from Latin term meaning "a rupture or protrusion". Laparoscopic techniques for inguinal hernia mesh repair have shown to be a less invasive surgical maneuver and it is associated with reduced postoperative pain, earlier return to normal life style and lower recurrence rates. In case of tacker fixation the location and number of staples is very important for the immobilization of the mesh patch. The rule is that the staples must be placed on the ileo-pubic tract. Glue also used for other group using glutuck or laparoscopic glue applicator Using Transabdominal preperitoneal (TAPP) repair in Alexandria, Egypt.

Aim of the Work

The aim of the study was to compare between two techniques of mesh fixation in laparoscopic inguinal hernia repair either tackers or cyanoacrylate glue and their post-operative impact.

Patients and Methods

In this prospective observational study, all patients aged ≥ 18 years undergoing laparoscopic inguinal hernia repair at the Gastrointestinal surgery unit of the Alexandria Main University Hospital and Medical research institute between November 1st, 2022, and September 20, 2023, were included. Excluded from the study were patients with coagulopathy problem, contraindicated for general anesthesia, long term use of immunosuppressive drugs, conversion to open repair, Previous abdominal exploration or complicated hernia. Data collection was done using a standardized data collection form to identify the difference between both techniques.

Results

The study included a total of 50 patients, all were males. Group (1): 25 patients who underwent laparoscopic inguinal hernia mesh repair with tackers. Group (2): 25 patients who underwent laparoscopic inguinal hernia mesh repair with glue. According to established postoperative care standards in our hospital, all patients received standardized perioperative pain management. The results indicate no statistically significant differences in these parameters of postoperative hematoma, seroma and acute urinary retention between Group I and Group II. The results indicate a statistically significant difference in the time of fixation between the two groups, with Group II (Glue) having a longer mean time of fixation compared to Group I (Tackers).

Table 1: Comparison between the two studied groups according to demographic data

Demographic data	Group I (n = 25)		Group II (n = 25)		Test of sig.	p
	No.	%	No.	%		
Sex						
Male	25	100.0	25	100.0	–	–
Female	0	0.0	0	0.0		
Age (years)						
Min. – Max.	19.0 – 63.0		18.0 – 62.0			
Mean \pm SD.	40.88 \pm 13.57		36.80 \pm 13.64		t=	0.294
Median (IQR)	40.0 (28.0 – 51.0)		31.0 (27.0 – 49.0)		1.060	
ASA Score						
I	17	68.0	17	68.0	$\chi^2=$	1.000
II	8	32.0	8	32.0	0.000	
BMI (kg/m²)						
Min. – Max.	22.0 – 34.0		21.0 – 33.0			
Mean \pm SD.	26.84 \pm 3.53		26.92 \pm 3.80		t=	0.939
Median (IQR)	26.0 (24.0 – 30.0)		27.0 (23.0 – 30.0)		0.077	
Type of hernia						
Direct	7	28.0	8	32.0	$\chi^2=$	M _C p=
Indirect	14	56.0	16	64.0	1.883	
Mixed	4	16.0	1	4.0		
Symptoms						
Pain	11	44.0	12	48.0	$\chi^2=$	0.777
Swell	14	56.0	13	52.0	0.081	
Side						
Right	25	100.0	25	100.0	–	–
Left	0	0.0	0	0.0		
Laterality						
Unilateral	17	68.0	17	68.0	$\chi^2=$	1.000
Bilateral	8	32.0	8	32.0	0.000	
Type of procedure						
Tapp	25	100.0	25	100.0	–	–

Table 2: Comparison between the two studied groups according to time of fixation

Time of fixation	Group I (n = 25)	Group II (n = 25)	U	p
Min. – Max.	1.0 – 2.0	1.0 – 5.0	74.500*	0.001*
Mean \pm SD.	1.04 \pm 0.20	1.92 \pm 0.76		
Median (IQR)	1.0 (1.0 – 1.0)	2.0 (2.0 – 2.0)		

IQR: Inter quartile range

SD: Standard deviation

U: Mann Whitney test

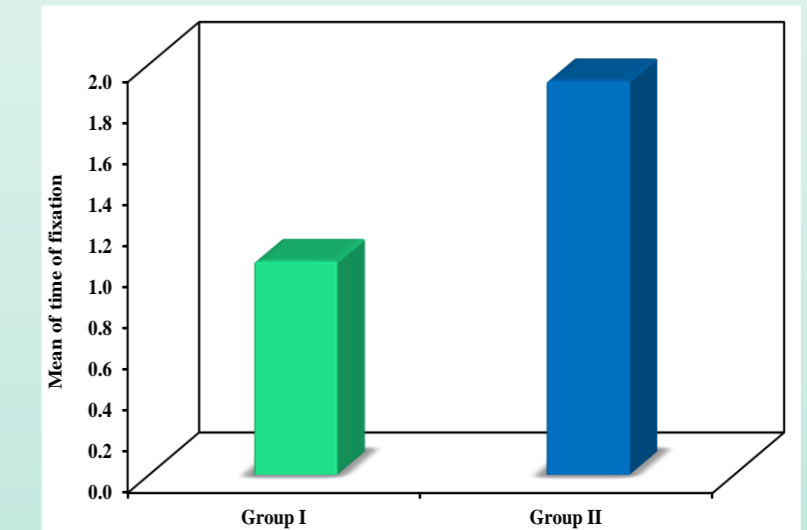


Figure 1: Comparison between the two studied groups according to time of fixation

Conclusion

As there are no discernible differences between tackers and cyanoacrylate glue in terms of results except for time of mesh fixation, surgeons should choose the option that is available at the lowest cost at their respective institutions.