

OPTICAL TROCAR VERSUS BLIND INTIAL TROCAR INSERTION DURING LAPAROSCOPIC CHOLECYSTECTOMY: A RANDOMIZED COMPARATIVE STUDY.

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INTRODUCTION

Laparoscopic cholecystectomy (LC) is the “Gold standard” for elective treatment of symptomatic gallstone disease. Laparoscopic abdominal surgery requires the implementation of successful pneumoperitoneum in the vast majority of patients with more than half of all complications occurring at the time of entry. Therefore, optimizing the entry technique is essential. There is scarcity of studies comparing the blind trocar with the Optical trocar technique as asafe and alternative method in creation of pneumoperitoneum.

AIM OF THE WORK

The aim of this randomized comparative study was to evaluate the safety of abdominal access using the optical trocar (Visiport®) versus blind initial trocar insertion without prior pneumoperitoneum with Veress Needle for establishing pneumoperitoneum during laparoscopic cholecystectomy.

SUBJECTS AND METHODS

In the period from April 1, 2021 to May 31, 2022, 162 patients with symptomatic gallstone disease were admitted to the HPB Surgical Unit in AUMH. A total of 62 patients were excluded, 50 for having PUH, and 12 patients for having upper abdominal scar from previous surgery.

The remaining 100 patients constituted our study cohort which were randomly allocated to OT (optical trocar) and BT (blind trocar) groups with 50 patients per group.

Preoperative assessment:

Thorough history, Routine laboratory investigations and abdominal ultrasonography.

RESULTS

The median number of attempts required for successful access of the abdominal cavity was significantly less in the BT-group compared to OT-group (1 VS 2, p0.001).

Table 1: Comparison between the two studied groups according to number of attempts

Introduction of the trocar	OT group (n = 50)		BT group (n = 50)		P
	No.	%	No.	%	
Success from 1 st attempts	15	30.0	30	60.0	0.003*
Repeated Attempts					
2 nd	17	34.0	13	26.0	0.3
3 rd	12	24.0	7	14.0	0.2
4 th	6	12.0	0	0.0	0.027*
Total number of attempts	1 (1 – 2)		2 (1 – 3)		0.001*

None of the patients in both groups experienced any intra abdominal complications whether vascular or visceral injury related to the technique of entry.

The time required to achieve successful abdominal access as well as the duration of the operation in both groups. The median time required for entry was significantly longer in the OT-group compared to that in the BT-group (3 vs. 1.75 minutes, p<0.001).

Table 2: Comparison between the two studied groups according to duration of entry & duration of operation.

	OT group (n = 50)		BT group (n = 50)		p
	No.	%	No.	%	
Duration (sec)					
Min. – Max.	60.0 – 360.0		83 – 180.0		<0.001*
Mean ± SD.	2.94 ± 1.18		1.59 ± 0.60		
Median (IQR)	3.0 (2.0 – 4.0)		1.75 (1.0 – 2.0)		
Duration of operation (min)					
Min. – Max.	42.0 – 120.0		40.0 – 130.0		0.015*
Mean ± SD.	70.16 ± 17.36		62.56 ± 16.38		
Median (IQR)	66.0 (57.0 – 80.0)		61.0 (55.0 – 68.0)		

CONCLUSION

Blind Trocar method in creation of pneumoperitoneum is a safe, faster and reliable method. This technique is still underutilized and needs to be adopted by surgeons without fear.