

## Disadvantages of Various Blunt Dissection Techniques in Laparoscopic Surgery: A Survey amongst Telangana Surgeons

L Sridhar<sup>1</sup>, Rohit Phadnis<sup>2</sup>, PawanHosamani<sup>3</sup>, Faiz Hussain<sup>4</sup>, Chodipalli Srinivas Vijayram<sup>5</sup>, Juveria Fatima<sup>6</sup>

<sup>1</sup>Professor and Head of Department, Department of Surgery, AIMS, Hyderabad

<sup>2</sup>Associate Professor, Department of Surgery, AIMS, Hyderabad

<sup>3</sup>Associate Professor, Department of Surgery, MIMS, Vikarabad

<sup>4</sup>Professor, Department of Surgery, AIMS, Hyderabad

<sup>5</sup>Post Graduate, Department of Surgery, AIMS, Hyderabad

<sup>6</sup>House Surgeon, Department of Surgery, AIMS, Hyderabad

Received: 25-12-2022 / Revised: 25-01-2023 / Accepted: 18-02-2023

Corresponding author: Dr. Chodipalli Srinivas Vijayram

Conflict of interest: Nil

### Abstract

**Background:** Laparoscopic techniques have revolutionized the field of surgery and have taken it to new horizons. Nevertheless, there is still a lot of room for innovation in various aspects like blunt dissection techniques. This survey is based on the disadvantages of various blunt dissection techniques in laparoscopic surgeries.

**Methodology:** Minimally invasive surgeons belonging to the state of Telangana were sent the survey as a google form about various problems generally encountered during blunt dissection and their responses were noted along with which the results of the survey were tabulated graphically and reviewed in the light of previously available data.

**Results:** Amongst 105 MAS surgeons, 93.3% chose suction cannula and 46.7% chose gauze piece with or without suction cannula. With suction cannula usage they faced difficulties such as, drop in pressure (86.7%), fear of injury to nearby structures (33.3%), and omentum or viscera pulled into the field (73.3%). With gauze piece usage, obscuration of operative field(33.3%), fear or loss of gauze piece(46.7%). With either technique they required conversion to open surgery(26.7%), frequency of change of instruments or gauzes >10 times (92.9%),prolongation of surgery(53.3%), increased morbidity(49%). Summatively on a scale of difficulty from 1 to 10, 60% more than 5.

**Conclusion:** This survey and available literature review about blunt dissection techniques in laparoscopic surgeries revealed that there is still a lot of scope for new techniques or instruments in view of present difficulties.

**Keywords:** Blunt dissection techniques, laparoscopic surgery, survey.

This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.

### Introduction

laparoscopic techniques have revolutionized the field of surgery and have taken it to new horizons. Its application in various procedures has changed the

outcome in many procedures and it has become the gold standard procedure for a lot of surgical pathologies.

Nevertheless, there is still a lot of room for innovation in various aspects like blunt dissection where a variety of mechanisms are being used to deal with dense adhesions, bleeding and capillary ooze. Blunt dissection using the present array of instruments may not be as effective. For a dissection technique to be perfect it has to have features of both hemostasis and tissue selectivity which ensures minimal damage to the tissues due to excessive handling<sup>1</sup>. Other features that are also very vital include safety, efficiency and size of the instrument as it can block the view of the field along with being cost effective<sup>2</sup>.

Instruments available for blunt dissection include-

- Closed scissors tips
- -scissor points
- -graspers - straight & curved.
- -suction cannula. --pledget.

These blunt dissection techniques are relatively safer especially in presence of adhesions and other difficulties. It also has

other advantages of being simpler but it also has some disadvantages like injury to vital structures, obscuration of anatomy, pressure loss, pulling of unwanted viscera and omentum into the field of work. All of this leads to prolonged operative times, increased risk of injury & increased morbidity in patient which may lead to increased recovery time & prolongation of hospital stay. Loss of gauze piece or pledget in the peritoneum, conversion of laparoscopic procedure into an open surgery, inability to control bleed efficiently are some other disadvantages.

**Methods:** Minimally invasive surgeons belonging to the state of Telangana were sent the survey as a google form about various problems generally encountered during blunt dissection and their responses were noted along with which the results

of the survey were tabulated graphically and reviewed in the light of previously available data

**Survey of disadvantages of various blunt dissection instruments and techniques.**  
Form description

Email \*  
Valid email address  
This form is collecting email addresses. [Change settings](#)

Experience of the surgeon  
 <5 years  
 >5years

Type of blunt dissection used-  
 Suction  
 Gauze  
 Other...

Drop of pressure?  
 Yes  
 No

Obscuration of anatomy by the instruments?  
 Yes  
 No

Fear of Injury or Injury to the vital organs?  
 Yes  
 No

Describe the injury or complications, if happened.  
Long-answer text

Fear of loss of gauze piece or lost gauze piece?  
 Yes  
 No

Surgeries converted to open due to the  
 Yes  
 No

Frequency of change of instruments or gauze  
 <10  
 >10  
 Other...

Omentum or viscera pulled into the field of interest  
 Yes  
 No

Difficulty in handling massive bleeds with the  
 Yes  
 No

If yes, on the scale what would you rate the  
 1 2 3 4 5 6 7 8 9 10

Prolongation of the surgery due to shortcomings  
 Yes  
 No

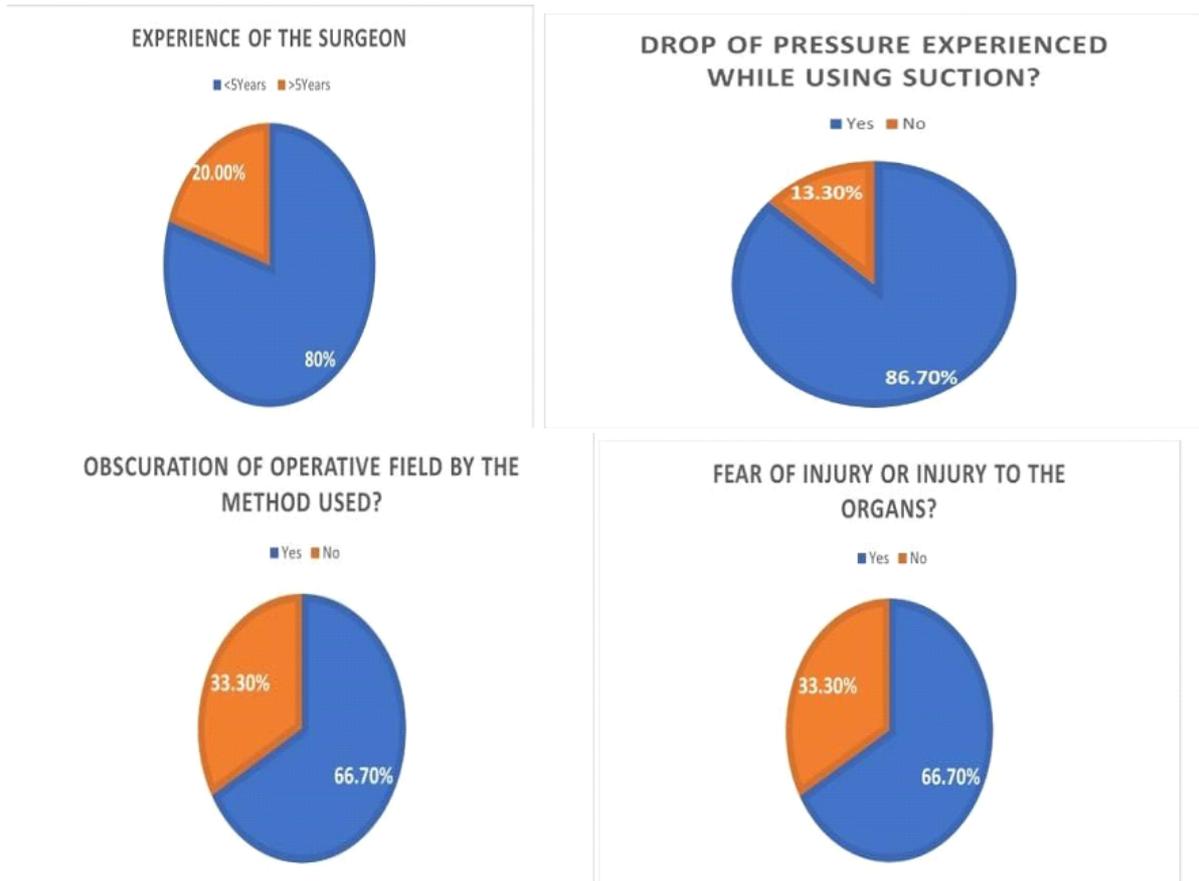
If yes, did it lead to increased morbidity in the  
 Yes  
 No  
 Maybe

Comments  
Long-answer text

**Result:**

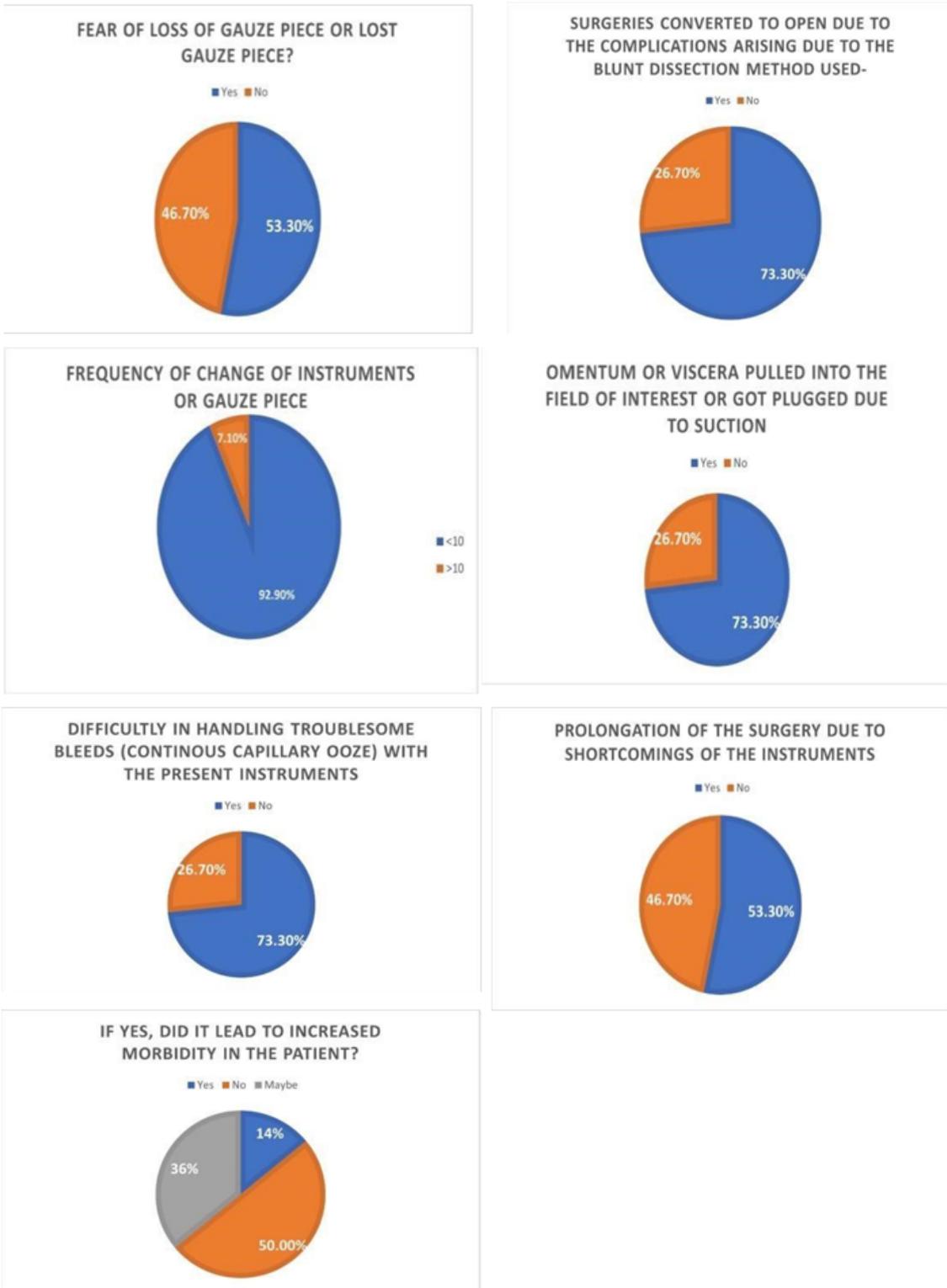
The data gathered from google form in graphical format showed following results. Amongst 105 MAS surgeons, majority of them have more than 5 years of experience who agreed suction cannula (93.3%) as method of blunt dissection compared to 46.7% who were using gauze piece

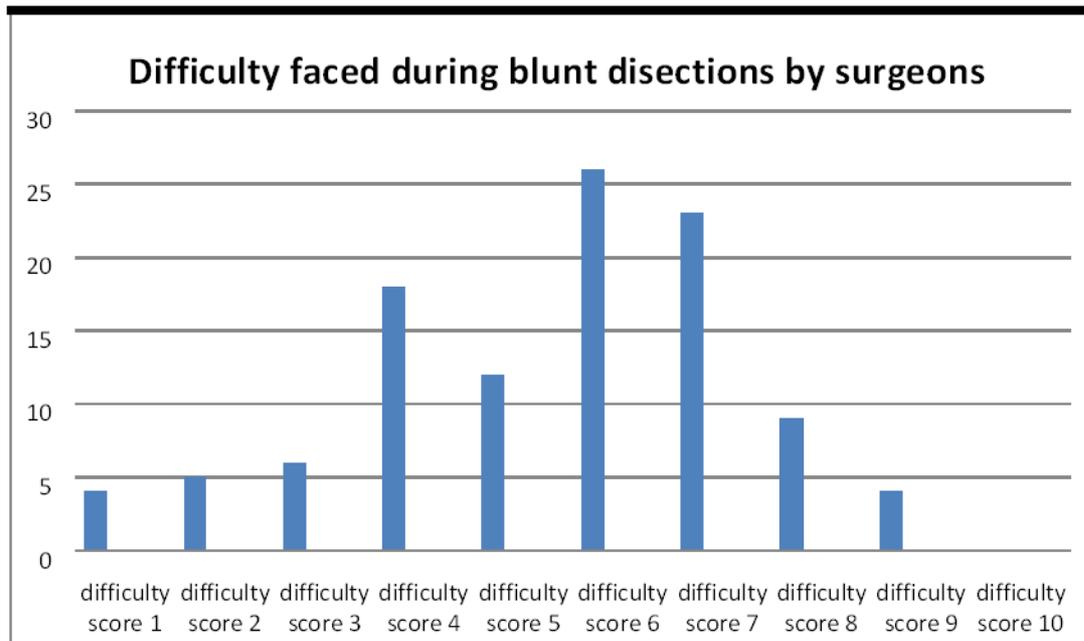
with/without suction cannula. In the blunt dissection techniques used, problems like drop of pressure (86.7%) were faced during suction canula usage. Obscuration of operative field(33.3%) by gauze piece or pledget was observed. Fear of injury/injury to nearby structures (33.3%) due to suction tip or closed scissor/instrument dissection.



Fear or loss of pledget or gauze pieces (46.7%) particularly when dissecting under oozing area. Required conversion to open surgery (26.7%), due inefficient blunt dissection techniques or loss of gauze piece. Frequency of change of instruments >10times (92.9%) , to clear the area and go to targeted organ using blunt dissection was observed. Omentum(most commonly ) or viscera pulled into the field(73.3%) ,particularly while using suction canula.

Difficulty in handling tissue in the scenario of arterial or continuous bleed(73.3%), Prolongation of surgery (53.3%), was observed due to one or more of above mentioned problems. Increased morbidity was observed by operating surgeons , in patient(49%) due to prolonged operative time or conversion to open Summative, on the scale of difficulty from 1 to 10, 60% were on the scale of >5 and 46.3% surgeons were open to new suggestions.





### Conclusion

This survey and available literature review about blunt dissection techniques in laparoscopic surgeries revealed that though these techniques have aided us to take laparoscopic surgeries to new horizon there is still a lot of scope for new techniques or instruments in view of present difficulties which can make hemostasis, suctioning and good dissection to be done side by side in a cost effective manner.

### References

1. R.K. Mishra, laparoscopic dissection techniques' 3-8; new Delhi. Jaypee brothers medical publishers. 2013;103.
2. Dr. Tyrone Peter Sangster. An overview of laparoscopic dissection modalities. world laparoscopy hospital. new Delhi. 2002.
3. Ahmad H M Nassar, Hwei Jene Ng. Risk identification and technical modifications reduce the incidence of post-cholecystectomy bile leakage: analysis of 5675 laparoscopic cholecystectomies. Langen becks Arch Surg 2022 Feb;407(1):213-223.
4. Roy Huynh, Mark Magdy, Lucia Saliba, Ken Loi Retained gallbladder secondary to retrieval bag rupture during laparoscopic cholecystectomy- A case report Int J Surg Case Rep. 2019;59:101-106.
5. D Parmeggiani, G Cimmino, D Cerbone, N Avenia, R Ruggero, A Gubitosi, G Docimo, S Mordente, C Misso, U Parmeggiani Biliary tract injuries during laparoscopic cholecystectomy: three case reports and literature review G Chir. 2010 Jan-Feb;31(1-2):16-9.
6. Satoshi Ida, Naoki Hiki, Takeaki Ishizawa, Yugo Kuriki, Mako Kamiya, Yasuteru Urano, Takuro Nakamura, Yasuo Tsuda, Yosuke Kano, Koshi Kumagai, Souya Nunobe, Manabu Ohashi, Takeshi Sano Pancreatic Compression during Lymph Node Dissection in Laparoscopic Gastrectomy: Possible Cause of Pancreatic Leakage. J Gastric Cancer 2018 Jun;18(2):130141.
7. B Lamme, M A Boormeester, R de Vos, O van Ruler, J W O van Till, H Obertop Survey among surgeons on surgical treatment strategies for secondary peritonitis Dig Surg. 2004;21(5-6):387-94.
8. A Weigt, F Rauchfuss, Y Dittmar, U Settmacher, H Scheuerlein. Minimal access surgery: A survey among

- surgeons in Central Germany' *Chirurg*. 2015 Jun;86(6):587-94.
9. Diaz J, Eisenstat M, Chung R. A case-controlled study of laparoscopic splenectomy. *Am J Surg*. 1997; 173:148-50.
  10. Horgan PG. A novel technique for parenchymal division during hepatectomy. *Am J Surg*. 2001; 181:236-7.
  11. Katkhouda N, Mavor E. Laparoscopic splenectomy. *Surg Clin North Am*. 2000; 80:1285-97.
  12. Glasgow RE, Yee LF, Mulvihill SJ. Laparoscopic splenectomy. The Emerging standard. *Surg Endosc*. 1997; 11:108-12.
  13. Park A, Birgisson G, Mastrangelo MJ, Marcaccio M, Witzke D. Laparoscopic splenectomy: outcomes and lessons learned from Over 200 cases. *Surgery*. 2000; 128:660-7.