



REVIEW OF - PNEUMO PERITONEUM AIDED ACCESS INTO ABDOMEN FOR RE-RELAPAROTOMIES: A NEW TECHNIQUE

General Surgery

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ABSTRACT

Introduction: This is a review study of our own technique (Vikas Technique) in a larger population. **Methods and Materials:** In this study we included 98 patients who underwent multiple laparotomies for various reasons attending to general surgery of Mallareddy Institute of Medical Sciences; Suraram and RVM Institute of Medical Sciences; Mamidipally, during a period of 5 years. **Results:** Out of 98 patients who underwent laparotomy by this unique technique, 3 patients had trivial bowel injuries during the procedure. All the three patients had history of more than 4 laparotomies in the past. Rest of them dint have any issues. **Conclusions:** We here by conclude that, the results achieved in our study are satisfactory. We can prevent inadvertent injuries or the bowel and internal organs by following this technique. Further clinical work by others in multiple institutes with even larger population is recommended for more inferences.

KEYWORDS

Re-relaparotomy, Review, Pneumoperitoneum

1. INTRODUCTION

This is a review study of our own technique (Vikas Technique) in a larger population [1]. In this pneumo-peritoneum is created prior to opening the abdomen in order to prevent inadvertent injuries to the bowel and other internal organs in patients with history of multiple laparotomies for various reasons.

The objective of this self-review is to show the results in larger population as the previous study was done in a smaller population.

2. METHODS AND MATERIALS

In this study we included 98 patients who underwent multiple laparotomies for various reasons attending to general surgery and surgical oncology departments of Mallareddy medical college, RVM medical college during a period of 5 years. Patients with minimum 3 previous laparotomies were included. Patients with malignancies, recurrence, adhesions, anastomotic leaks, obstruction, hernias are included in the study.

Patients with extremes of age and those who are not fit for general anesthesia are excluded from the study. After proper evaluation, Pre-Anesthetic check-up and preparation the patients are posted for surgery.

3. Procedure

Under general anesthesia, abdomen painted and draped. Nasogastric tube passed to deflate the stomach. Vertical or transverse incision is given based on the previous scar. The anterior abdominal wall is incised and opened layer by layer up-to the anterior layer of rectus sheath. Pneumo-peritoneum is created by introducing Veress needle in the Palmer's point assuming the adhesions to be minimal at that area. All the flimsy interloop adhesions as well as adhesions in-between the bowel to anterior abdominal wall are released because of which most of the bowels will fall back automatically once the pneumo-peritoneum is created. Incision is addressed and deepened, incision the deeper layers of the rectus. A blue dome appearance is clearly visible just before entering into the peritoneal cavity signifying an area of no bowel adhesions. This is a point of peritoneal entry. Once the peritoneum is opened at a safer point, bowel and internal organs injury is less likely to happen. Extension of the incision is done under vision and rest of the surgery is proceeded in regular way.

4. RESULTS

Out of 98 patients who underwent laparotomy by this unique technique, 3 patients had trivial bowel injuries during the procedure. All the three patients had history of more than 4 laparotomies in the past. Procedure and post procedure was uneventful otherwise. Initially the operative time increased by 15-20mins, which could be reduced to 7-15 mins with experience. There are no other complications noted in intra and postoperative period. Post op recovery was uneventful.

5. DISCUSSION

Abdominal adhesions are bands of scar-like tissue that form inside the abdomen. The bands form between two or more organs or between organs and the abdominal wall. There is a tendency of scarring if the tissues are traumatized during to excessive handling. The pathophysiology of adhesion formation has recently been elucidated to an unprecedented degree [2].

Post-surgical adhesions are a widespread and largely unacknowledged problem that represent a considerable burden to patients in terms of re-operations [3]. Abdominal adhesions develop in more than 9 out of every 10 people who have surgery that opens the abdomen [4,5]. Corrective surgery is often required to resolve adhesion-related complications; however, additional surgery tends to encourage the development of additional (de-novo) adhesions and the reformation of lysed adhesions [6]. After multiple laparotomies, the incidence of adhesions may be as high as 93% [7]. Repeated opening of the abdomen will lead to more number and denser adhesion formation. Adhesions increases the possibility of injuries during opening of the abdomen if a next laparotomy is required. Adhesions even increases the risk of bowel injuries during port insertion by conventional technique. Incidence of adhesions is more with midline incisions than Pfannenstiel incision for gynecological or pelvic surgeries [8]. Due to these surgeon face difficulties to gain access into the abdominal cavity without causing injuries to the bowel or the internal organs. Most of the difficulty during re-laparotomy occurs during the entry into the abdomen. 6% of the laparotomies were complicated directly because of the previous incision according to a study [9]. Most of the bowel or organ injuries occur more frequently at this point. Once the access into the abdomen is clear then there is less likely that the bowel or organs are injured in the hands of an experienced surgeon. There-fore it is always safe to enter the abdomen from a virgin site i.e., adjacent to the previous scar or away from it. In our study we introduce the veress needle in the left hypochondrial region assuming this site is free from the adhesions as it is away from the previous scars. By following this method of entry we can prevent inadvertent damage to the bowel or other internal organs [1]. This method also helps for better dissection as flimsy adhesions with be released by the CO2 and handling of the bowel can be minimized.

6. CONCLUSION

This is a review of our own novel technique done in a larger population concluding the results. We here by conclude that, the results achieved in our study are satisfactory. We can prevent inadvertent injuries or the bowel and internal organs by following this technique. Further clinical work by others in multiple institutes with even larger population is recommended for more inferences.

7. REFERENCES

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