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Role of port incision site and intraperitoneal Inj. Lignocaine 2% instillation on post-operative pain relief after laparoscopic surgery

Dr Honeypalsinh H Maharaul
Associate Professor, Department of Surgery, Smt. B.K.Shah Medical Institute and Research Centre, Pipariya Vadodara

Dr Sonali Goyal
Resident, Department of Surgery, Smt. B.K.Shah Medical Institute and Research Centre, Pipariya Vadodara

Dr Tejash Sharma
Associate Professor, Department of Anaesthesia, Smt. B.K.Shah Medical Institute and Research Centre, Pipariya Vadodara

***Abstract*---**Introduction: Laparoscopic surgery, in particular, has seen tremendous advances. Breakthroughs in video technology, instrumentation, adhesion prevention, and computer-enhanced technology have certainly allowed surgeons to routinely perform a number of procedures endoscopically rather than by laparotomies. Aim and Objectives: To evaluate role of lignocaine 2% instillation at post site and intraperitoneal on pain relief. Methodology: 40 patients who were enrolled in present study conducted at Dhiraj hospital, Smt. B. K. Shah Medical Institute and research centre, Pipariya from 1st August 2020 to 30th October 2021. They were randomly divided in to 2 groups A and B. In patients of Group A post-operative Inj. Lignocaine 2% were given at port site and intraperitoneally while patients of group B were managed as routine. Patients in both groups were given pain score and score was recorded and compared at 1, 4 and 10 hours postoperatively. Results: Total 40 patients were enrolled out of which 22 patients were Male and 8 patients were female; mean age group was 31-40, most common surgery was laparoscopic cholecystectomy. Pain score was more in group B as compared to group A. Conclusion: Port site and intraperitoneal instillation of injection lignocaine reduces post-operative pain following laparoscopic surgeries.

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***Corresponding author**: Dr Tejash Sharma; Email: drtejash@gmail.com*
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Introduction

Laparoscopic techniques have revolutionized the field of general surgery in recent years[1]. Fastest growths and advances in health care technology have given the all surgeon the power of not only treating diseases surgically but also limiting surgical invasiveness [1,2]. Laparoscopic surgeries is most common minimal access surgery performed all over the world and has not only reduced pain, hospitalization days but morbidities also [1-5] . Access to surgical site is made using metallic/ disposable trocar though with working instruments and laparoscope is introduced [2,3]. Advantages like less pain, better cosmesis, decreased hospitalization period , fast ambulation , decreased overall financial load due to early recovery and return to work has made this technique preferable [4,5]. Philips Mouret was first to perform laparoscopic surgery by removing gallbladder 1987 after which this technique has been evolved to perform various abdominal as well as other surgeries like neurosurgeries, spinal surgeries, arthroscopy, urological surgeries and gynaecological surgeries [1-6]. Benefits of Minimal Access Surgery include less pain, better cosmesis, decreased hospitalization period and less postoperative complications compared to open. Laparoscopic Surgery, however, has its package of unique complications. Iatrogenic bowel injury due to verres needle insertion or coupling injury during dissection, vascular injury are infrequent compilations that may occur [7,8] .

Pneumoperitoneum also causes compilations such as decreased venous return, stretching of abdominal wall leading to post operative pain. [9,10] Residual CO2 also causes irritation of nerve leading to postoperative pain [10] . Post operative peritoneal inflammation, handling of bowel and manipulation also causes pain [10,11] . Thus , post operative pain is one of the cons in laparoscopic surgery which is usually mild and occurs in immediate post operative period [12]. Local pain is also associated with incisions for trocar insertion.

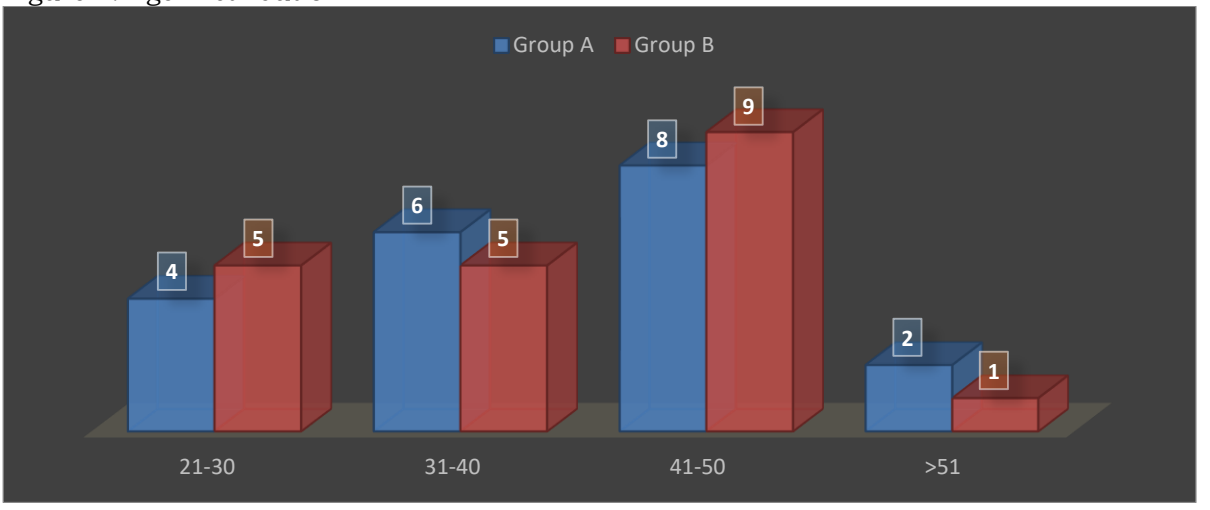
Methods

40 patients who were enrolled in present study conducted at Dhiraj hospital, Smt. B. K. Shah Medical Institute and research centre, Pipariya from 1st August 2020 to 30th September 2021. Detailed history was taken and were explained about study and consent was taken. They were splited in to 2 groups A and B on random basis. In patients of Group A post-operative Inj. Lignocaine 2% were given at port site and intraperitoneally spraying at operative site(gall bladder fossa, appendiceal stump) while patients of group B were managed as routine. Pain was accessed according to Visual Analogue Score (VAS)) in both groups and was compared at 1, 4 and 10 hours postoperatively. Data was tabulated in form of charts and tables to arrive at diagnosis.

Results & Discussion

Age Distribution

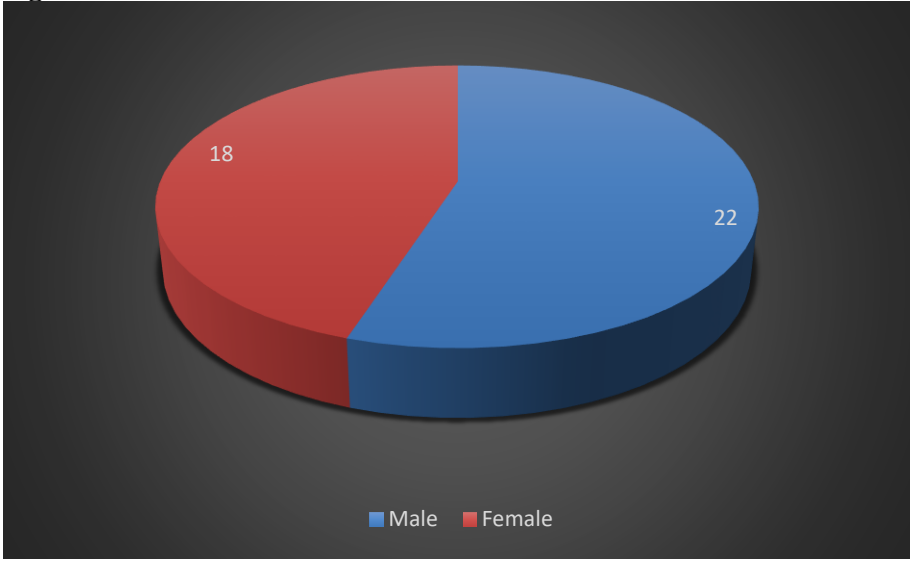
Figure 1: Age Distribution



Most common age group was 41-50. No significant difference was found between two groups.

Gender Distribution

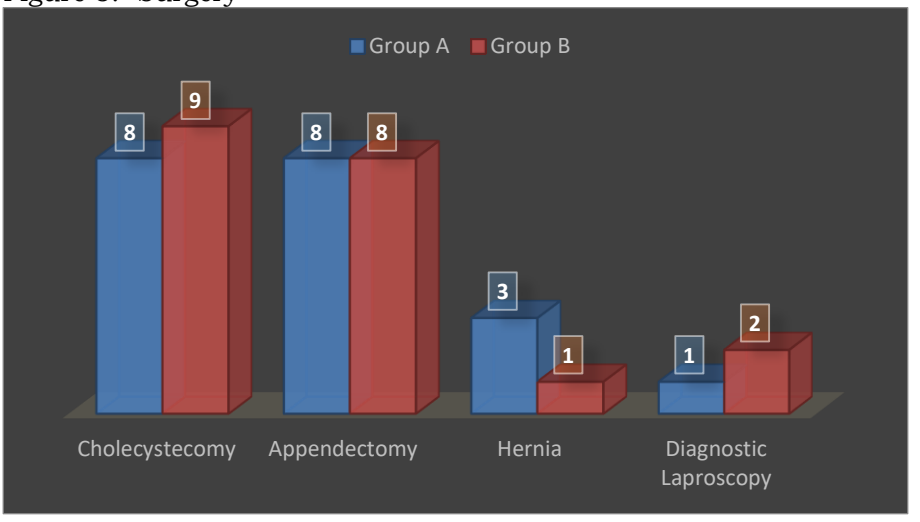
Figure 2: Gender Distribution



Male predominance was present in our study.

Surgery

Figure 3: Surgery

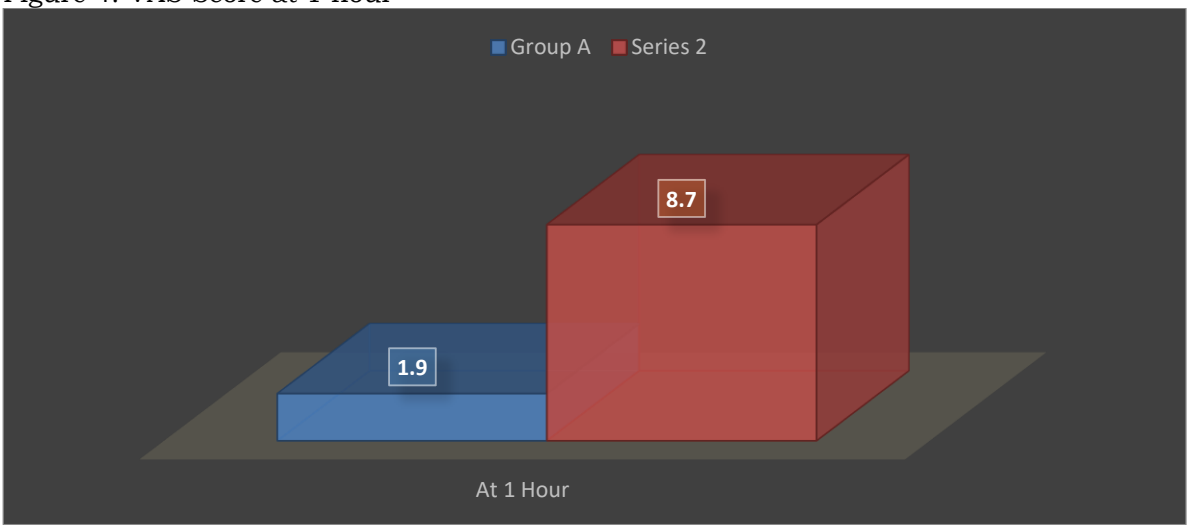


Laproscopic Cholecytectomy and Appendectomy was most common surgery performed in both groups.

VAS Score

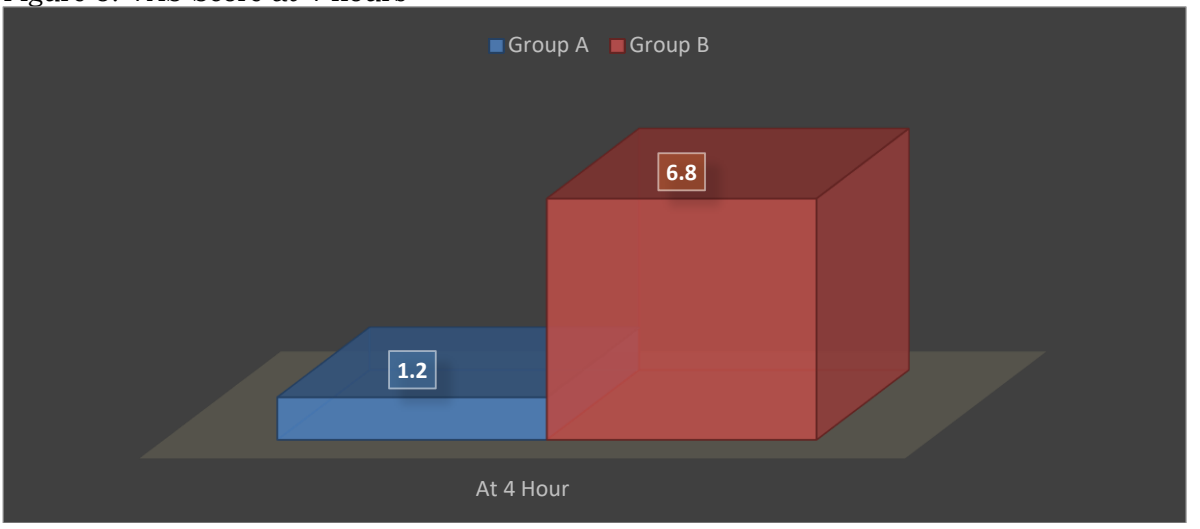
At 1 Hour

Figure 4: VAS Score at 1 hour



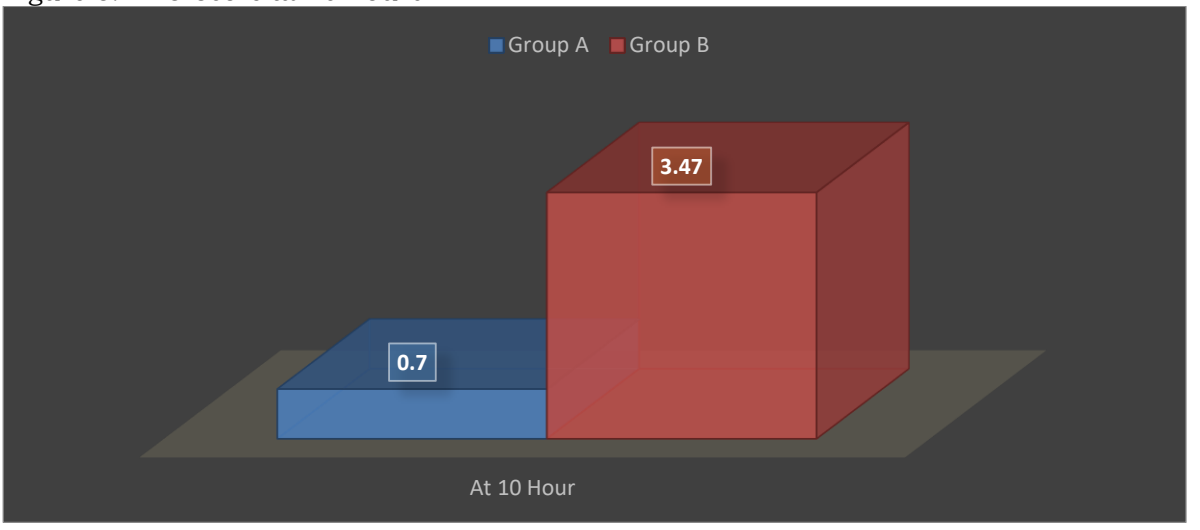
At 4 Hour

Figure 5: VAS Score at 4 hours



At 10 Hour

Figure 6: VAS Score at 10 hours



VAS score was high at 1,4 & 10 hours postoperatively in group B suggesting effect of local Inj. Lignocaine in group A. Post-operative pain after laparoscopic Surgeries starts from nociceptors present on skin which are stimulated by incision later this pain occurs due to stimulation of pain receptors during bowel manipulation, inflammation leading to stimulation of central neurons which again amplify pain. Response to nociception contributes to activation and perpetuation of the stress response to surgery with its multiple negative consequences. Instillation of Local Inj. Lignocaine 2% blocks such stimuli and

gives pain relief. Local Anaesthesia had advantage of not having systemic side effects.

Conclusion

Port incision site and intraperitoneal instillation of injection lignocaine reduces post-operative pain after laparoscopic surgeries.

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Declarations

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Ethical approval: TAKEN FROM SVEIC

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