
ORIGINAL ARTICLE

Paralytic Ileus in Post Appendectomy Patients

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ABSTRACT

Background: Surgery is associated with innate risks. Post-operative Ileus is one of the most frequent complication post-operatively following bowel surgery. The peristaltic movements of the intestine recover within 12hours completely. The effect of Epidural anesthesia and General anesthesia both on postoperative ileus has been proved many years ago . Hence the two mode of anesthesia were compared in our research. Study design is Comparative. Patients having acute appendicitis were selected as it is the commonest emergency procedure. Moreover increase sample size helped to reduce sample bias.

Objective: The main aim of the study was to compare the effects of Epidural and General Anesthesia reducing time of Paralytic Ileus postoperatively.

Methodology: A total of 500 patients were studied having acute appendicitis . All the patients having acute appendicitis were admitted in the Surgical A unit of District Head Quarter Hospital ,Kohat from April 2012 to April 2014. The patients were divided in two groups. Patients having Age >30yrs and those having co-morbidities like Appendicular Mass were excluded from the study. Post-operative Ileus and vomiting was observed at 3,6,9 and 12 hrs respectively and results analyzed using spss 17.

Results: 500 patients were divided in two groups Group A and Group B. Mean Age was found to be 25 years in both the groups. Group A was operated using Epidural anesthesia while group B patients underwent General anesthesia. Both groups were observed for recovery of the bowel sounds at 3, 6, 9 and 12 hrs. In Group A patients bowel sounds of 150 patients (60%) recovered at 6 hrs, 60 patients (24%) at 3 hrs, 30 patients (12%) at 9 hrs and in 10 (4%)patients till 12 hours. In Group B 10(4%) patients recovery of bowel motility was within 3 hrs, 175 (70%) patients bowel sounds were audible after 9 hrs, 40 patients(16%) at 6hrs and30 patients (12%)bowel at 12 hrs.

Also 50(20%) in Group A developed postoperative vomiting and in Group B vomiting was reported in 115(46%) patients.

Conclusion: Results of this study showed that use of epidural anesthesia reduces post- operative ileus in appendectomy patients

Key Words: Paralytic Ileus, Epidural anesthesia, General anesthesia, Appendectomy

INTRODUCTION

Surgery is associated with innate risks. Although a few risks like infection and bleeding commonly occur in almost all types of surgery, operations that involve the bowel have some additional risks.^{1,2}

One frequent complication is Postoperative Ileus . It infact is postoperative paralysis of the intestine for some time. It is transient and reversible mostly. Commonly the peristaltic movements of the intestine recover within 12hours completely.^{1,2,3}

The role of bowel handling and type of anesthesia has a marked role in development of post operative Ileus. The effect of epidural anesthesia and General anesthesia both on postoperative ileus has been proven many years ago Systemic absorption of lidocaine used in epidural anesthesia

may be responsible for its beneficial effects on postoperative course.⁴ It has been showed that, intravenous lidocaine infusion may shorten period of hospital stay, decrease pain and accelerate return of bowel function in patients undergoing intestinal surgeries.^{3,4}The mechanism of action of lidocaine is probably due to the suppression of gastric inhibitory reflexes of peritoneal irritation after surgery .Also General anesthesia is regarded as to increase the recovery period of bowel motility.^{5,6} Acute appendicitis has inflammatory properties and appendectomy and is the most common emergency operation. Due to this fact this surgery was chosen to have maximum number of cases and hence reduce sample bias if any. Also it was kept in mind that minimal handling of the

intestine will further increase accuracy of results. All the procedures were carried out by consultant surgeon to reduce operative bias as well.

MATERIALS AND METHODS

A total of 500 cases having acute appendicitis were studied from April 2012 to April 2014. All these cases were admitted to Surgical A ward of District Headquarter Hospital Kohat. Selected Patients were divided in two groups i.e A and B with equal number of patients. All patients had Mean age of 25 yrs. Also the patients having Age > 30 years were excluded from study along with those having co-morbidities observed during surgery like appendicular mass. Group A underwent Epidural Anesthesia and Group B was given General Anesthesia .Preoperatively, all the

necessary base line investigations Like Complete Blood Count, Viral Profile , Ultrasound Abdomen and Pelvis and Serum Electrolytes were done. After Surgery Post operative Ileus and vomiting was observed at 3,6 ,9 and 12hrs respectively. The study carried was a comparative one. All the results were analysed and calculated through Spss 17. The surgeries were performed by Consultant Incharge of the unit to eliminate intraoperation Bias.

RESULTS

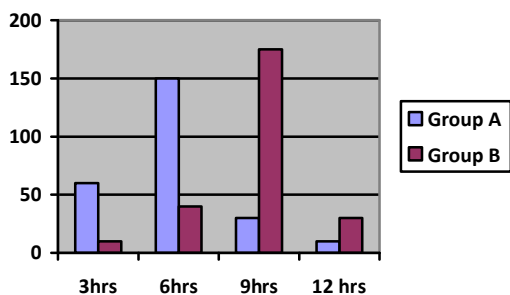
A total of 500 patients were divided in two groups Group A and Group B. Mean age was found to be 25 years in both the groups.

Table 1.1: Bowel Sounds

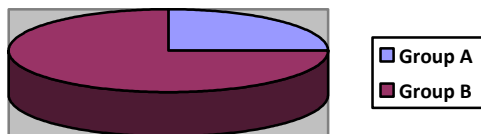
GROUPS	Bowel sounds at 3hrs	Bowel Sounds at 6hrs	Bowel Sounds at 9 hrs	Bowel Sounds at 12 hrs
GROUP A	60 (24%)	150 (60%)	30 (12%)	10 (4%)
GROUP B	10 (4%)	40(16%)	175 (70%)	30 (12%)

Table 1.2: Postoperative Vomiting

GROUPS	VOMITING
GROUP A	50 (20%)
GROUP B	115 (46%)



Graph 2.1: Post-operative Ileus



Graph 2.2: Post-operative Vomiting.

The patients of Group A was operated using Epidural Anesthesia while group B patients underwent General Anesthesia. Patients in both the groups were observed for recovery of the bowel sounds at 3 ,6,9 and 12 hrs.(Table 1.1). It was analyzed that in Group A patients bowel sounds of 150(60%) patients recovered at 6 hrs, 60 patients (24%) at 3 hrs, 30 patients (12%) at 9 hrs and in 10 patients (4%) . The time of bowel motility lapsed till 12 hours. In Group B 10 (4%)patients had early recovery of bowel motility i.e within 3 hrs. In 175(70%) patients bowel sounds were audible after 9 hrs . and in 40 patients(16%) paralytic ileus ended at 6hrs .In 30 patients (12%) bowel sounds returned after 12 hrs.

Also the patients were observed for postoperative vomiting in both the groups .(Table 1.2). It was found that in group A only 50 (20%) patients developed vomiting . However in Group B vomiting was reported in 115 patients (46%).

DISCUSSION

Postoperative ileus (Paralytic Ileus) is usually defined as a transient impairment of bowel motility that may occur after major surgery.^{7,8} It is considered an iatrogenic condition that is a normal consequence of abdominal or extra-abdominal surgery, including orthopedic or cardiothoracic surgery. Clinically paralytic ileus is characterized

by bowel distension, lack of bowel sounds, and a lack of flatus and bowel movements. Symptoms include nausea, vomiting, and stomach cramps. Other potentially adverse effects of postoperative ileus include increased postoperative pain; delay in resuming oral intake; poor wound healing; delay in postoperative mobilization; increased risk of pulmonary complications, including pneumonia, pulmonary embolism, and atelectasis; increased risk of deconditioning; prolonged hospitalization; decreased patient satisfaction; and increased health care costs.^{9,10}

The underlying pathology of paralytic ileus is best described as a lack of coordinated bowel activity.¹¹ The mechanisms involved in ileus are multifactorial, and include inhibitory sympathetic input; release of hormones, neurotransmitters, and inflammatory mediators. Postoperative hypomotility can affect all segments of the gastrointestinal (GI) tract, and recovery differs by segment. Inhibited motility in the small intestine is usually transient, recovering within several hours of surgery. Recovery of colonic motility is usually the limiting factor in resolving post operative ileus.^{12,13} An examination of GI recovery in patients who underwent bowel resection in 3 clinical trials found that most patients tolerated solid food and had a bowel movement by postoperative day 1 undergoing epidural anesthesia.¹⁴

The incidence of nausea and vomiting is also analyzed by different researchers in their papers and they unanimously were of the opinion that Epidural anesthesia patients have far lower rate of developing this complication than patients who underwent General anesthesia.^{15,16,17}

One of the major factors contributing to the development of paralytic ileus is inhibitory reflexes. Inhibitory neural reflexes are activated through stimulation of somatic and visceral fibers during surgery. They may originate from the incision as well as from the intestine.^{18,19}

After reviewing different studies studies with patients compared the effect of epidural anesthesia with General anesthesia in terms of Paralytic ileus especially studies conducted by Delaney CP, Wolff bg, vlsCusl er, et al:¹⁹, it was observed that Epidural anesthesia has a role in reducing Paralytic ileus. In summary, in most of the researches it was also described the advantages of Epidural Anesthesia over General anesthesia in terms of ileus.^{20,21}

Keeping in view of the above research work already done we divided patients in two groups A

and B each having 250 patients. Group A was given Epidural anesthesia and Group B General anesthesia. All the patients included in our research were young (mean Age 25yrs) and undergone same procedure i.e Appendectomy to minimize chances of bowel handling and hence reduce selection and intraoperative bias. Our results were in consistence with the foreign research and we found that mode of anesthesia had a strong influence on the development of paralytic ileus.

CONCLUSION

Mode of anesthesia has a strong role in development of Paralytic ileus. Epidural anesthesia can be utilized for aarly recovery of the patients undergoing abdominal surgery.

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