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Abstracts

Aim is to assess the safety and importance of laparoscopy as a diagnostic and therapeutic modality in small bowel obstruction, besides encouraging popularization of this technology to facilitate multicenter studies which can achieve clear guidelines of practice for laparoscopic management of small bowel obstruction.

Background

Laparoscopy has driven a dramatic change in the diagnosis and treatment of small bowel obstruction by bringing in all advantages of minimal access surgery in this area. Furthermore, it is an addition to the shortage of investigation modalities of small bowel obstruction.

Methods

The methodology is accomplished by searching and reviewing the PubMed web for related articles. Thirty-five articles were retrieved from the web and all are in English language.

Results

Almost all articles are agreeing with the feasibility, safety and efficacy of laparoscopy on selected cases but still there is some debate about acute obstruction, when to operate and when to conserve. But finally it is encouraging progress.

Conclusion

Laparoscopy is safe in small bowel obstruction and since experience and technology are competing, Laparoscopy may be the gold standard procedure in small bowel obstruction in the future as in the case of cholecystectomy, etc.

Introduction

The role of laparoscopy in small bowel disease, mainly obstruction, is evolving in both diagnostic and therapeutic measures. Laparoscopy proved to be feasible, safe and effective. But still there are no clear guidelines of practice, i.e. the case selection is a personal judgement. Most of the articles reviewed are not high level evidence based, e.g. case series, case report, etc. So, more studies needed to be done in this area as the laparoscopic procedures had almost stood the test of time in small bowel obstruction, especially in revealing the etiological causes and dealing therapeutically with more than half of the cases, either completely or hand assisted. In case of conversion again laparoscopy fulfilled the role of diagnosis and should not be considered as a failure.

Laparoscopic procedure in small bowel obstruction reduces morbidity, hospital stay. Furthermore, it is approved to be a diagnostic tool of difficult pathology, e.g. internal hernia, venous thrombosis and other rarities. Since small bowel obstruction is not like large bowel in clinical presentation and mainly there is less distension and the bowel are either emptied by vomiting or nasogastric decompression. A telescope insertion is almost possible in most cases if timing is optimum, but according to some studies (1), the data support laparoscopy in chronic and subacute obstruction but other studies (18) favour early intervention in case of acute obstruction. This debate is a quest for more multicentre studies.

Small intestinal obstruction was known to be as a difficulty in both diagnosis and treatment, because of the limitations of investigating tools and no test is ideal or perfect till today. Anyhow

laparoscopy is a mercy that it may bring a solution for this problem

At the start of laparoscopy era, intestinal obstruction was considered as an absolute contraindication. Few years passed, both technology and experience in laparoscopy improved then it was considered a relative contraindication. Now a days laparoscopy can play a great role in diagnosis and treatment of small bowel obstruction as long as it is feasible, safe and effective.

Aims and objectives

This article is to highlight the importance, safety and feasibility of diagnostic and therapeutic role of laparoscopy in small bowel obstruction and to encourage further evidence based studies in this area eg. multicentre randomized controlled trials. The proper utilization of this technology under clear guidelines of practice might improve the outcome and the laparoscopy approach to small bowel obstruction can be the gold standard approach to achieve that we have to encourage popularization among the utilizers, so that small bowel obstruction can be safely managed by laparoscopy and the procedure can be expanded world wide. The moment the experience of surgeon increases the technology innovation will also be motivated and finally there will be satisfying result to our patients, and resources.

Methodology

By reviewing the pubmed under keywords (laparoscopy in small bowel obstruction), 35 articles are retrieved. Some are retrospective, prospective others are series and case report.

All reviewed literature is in English language,

The studies are from 1995 to 2007, i.e. from days where laparoscopy is contraindicated in bowel obstruction till where laparoscopy is an important tool in diagnosis and treatment of small bowel obstruction. The articles are inclusive of both acute, subacute and chronic bowel obstruction.

Discussion :

The outcome of minimal invasive surgery in small bowel obstruction was measured and analysed by post operative evaluation return of bowel function, wound evolution, hospital stay and cost effectiveness. It was found that it is of benefit in some selected cases but other study (4) showed that it is difficult to operate laparoscopically on intestinal obstruction, and only half of the cases could be done, but still 50% is considered as a good progress compared to the past when bowel obstruction is considered a contraindication. There is only one article which is preferring laparoscopy for elective and selective cases (4), whereas others two encouraging Laparoscopy to intervene early and aggressively for patient with acute non postoperative obstruction to avoid complications. (9,31)

Overall, and specifically identifying those patients with a single band as a cause of obstruction, a significant no. of patient will be spared a laparotomy with its all consequences, morbidity and cost on socioeconomic integrity (10) which is encouraging and the study shown that 67% of obstruction were managed laparoscopy and the rest is either hand assisted (mini laparotomy) or conventional laparotomy with referral to the above discussion. The road map of the laparoscopy in the management of small bowel obstruction started to be clear. This progress needs to be appraised and encouraged and more progress in technology and experience will finally bring in the good guidelines of practice and there will be no more bias in case selection..

Diagnostic laparoscopy can be done safely under local anesthesia and it is somehow accurately deciding the site, degree and nature of bowel obstruction, unlike other's investigations which have limitations e.g. CT scan, barium meal etc

Diagnostic laparoscopy can be used jointly with other's investigating in case of bowel obstruction .like e.g. enteroclysis, and florescent materials for mesenteric venous thrombosis. (5) Almost all article review are describing laparoscopy procedure as visible safe and effective in selected cases of small bowel obstruction .but. being for selected cases is a restriction which need to be solved by increasing the experience and capacitance of both surgeon and technology .This can be achieved by popularizations and doing more multicenter studies and the research .so that clear guide lines of practice can be launched then laparoscopy can be gold standard procedure in small bowel obstruction .

There are some article which are supporting of laparoscopy in case of sub acute and chronic small bowel obstruction (1).whereas other's are encouraging early laparoscopy intervention an acute bowel obstruction to avoid complication which might make the procedure more difficult and hazardous and this will finally be reflected on the outcome.

Waiting for sign and symptoms which are indications for conventional surgical intervention are jeopardizing the role of a safe procedure which is diagnostic and can be of therapeutic role in more than sixty percent of the cases.(10)again ,in most of cases of small bowel obstruction it is possible to insert a telescope earlier after decompression of bowel by nasogastric tube and rehydration of the patient .This will reveal the etiological cause earlier and can be dealt with before serious complication might happened Furthermore ,the early diagnosis will improve the outcome of procedure either done conventionally or lap. because of in case of delaying .we will be dealing with complication and not the cause. .The clinical judgment of when to intervene is personal judgment and most of the surgeon who are dealing with these cases are on duty resident ,with restricted experience and waiting for the signs & symptoms of strangulation to appear and this will cost the patient a lot of complication .so encouraging general surgeon to do early laparoscopy will improve out come in these cases .but before that a clear guideline of practice should be launched. overall intestinal obstruction is an abdominal emergency which necessitated at least diagnostic lap, which may add to the shortage of our tool of investigation in small bowel obstruction ,which is usually a difficulty and no ideal test till today eg. enteroscope , radiological investigation ect. .the role of expectant treatment of small obstruction needs to be revised and should be on selected cases too as for lap .the only cases which needs to be treated conservative are early postoperative intestinal obstruction ,but still laparoscopy can have a treatment role where in cases of peritoneal sepsis with fibrinous adhesion which may need proper wash with saline to dilute sepsis and break flimsy adhesion .in addition to the then conventional measure of treatment .so there is a significant role in very early, acute intestinal obstruction in addition to the well established role in sub acute and chronic obstruction

Results

Laparoscopy is feasible safe and efficient in all forms of intestinal obstruction from early,acute and chronic obstruction . furthermore it has a diagnostic role in rare cases of intestinal obstruction like internal herniation, mesenteric venous ,thrombosis. In almost more than half of the cases surgical intervention can be accomplished laparoscopically either completely or hand assisted ,which is still minimally invasive and complication are comparable to conventional procedure .The conversion rate is high and should not be considered as failure once it is in the interest of patient health .Laparoscopy surgery outcomes is better than conventional with regards to complication, hospital stay and cosmesis besides early return to work.still hand assisted is better than conventional procedure.specially when resection of bowel is needed as it may be done with small incision. Laparoscopy.

Is found to be better than conventional surgery regarding post operative bowel adhesion as, the outcome of adhesiolysis laparoscopically may break the vicious circle of recurrence of adhesion and shorter period of post operative recurrences of adhesion .

Conclusion:

Laparoscopy for small bowel obstruction should be encouraged among surgeons especially junior colleague . the concept of laparoscopy is changing dramatically from contraindication in bowel obstruction to a very helpful diagnostic and therapeutic procedure in small bowel obstruction . Laparoscopy is prove to be feasible safe and effective .as a diagnostic and therapeutic procedure in all kinds of small bowel obstruction but it is not utilized to maximum because there are no clear guidelines of practice in small bowel obstruction. there is a necessity for more high evidence base studies which can be the road map of clear guidelines of practice.

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