



Study on Success of Repeated Attempt After First Failed Attempt of Saline Reduction of Intususception in Infants.

KEYWORDS

Intususception, Saline reduction, USG guidance, laparotomy.

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ABSTRACT *Intususception is a condition in which a part of the intestine invaginates into another section of intestine.*

Aim: study on success of second and third attempts after first failed attempt of saline reduction of intususception in infants.

Materials and methods: Infants presented with intususception are included in the study. . All the cases in which intususception mass persisting after the first attempt of saline reduction are included in the study. In all these cases a second attempt was done after 10 minutes. Those cases in which mass persisting after second attempt, a third attempt was done. If the third attempt is failed, patient is taken for laparotomy. We are comparing the number of success cases, which would have gone for unnecessary laparotomy , if directly went for laparotomy after first attempt.

Conclusion: repeated attempt of saline reduction will increase the saline reduction success rate and decrease the laparotomy rate.

INTRODUCTION

Intususception is a medical condition in which a part of the intestine invaginates into another section of intestine, similar to the way the parts of a collapsible telescope slide into one another.[1].The part that prolapses into the other is called the intususceptum, and the part that receives it is called the intususciptens.

The patient with intususception is usually an infant, between 5 to 10months . Early symptoms can include incessant cry, nausea, vomiting . Usually present with incessant cry due to severe, and intermittent abdominal colicky pain. Infants may cry, draw their knees up to their chest. Initially, vomiting is nonbilious but when the intestinal obstruction occurs, vomiting becomes bilious. Later signs include rectal bleeding, often with "red currant jelly" stool and lethargy. Physical examination may reveal a "sausage-shaped" mass, felt upon palpating the abdomen.

In most infants with intususception, the etiology is unclear. This group is believed to have idiopathic intususception. One theory to explain the possible etiology of idiopathic intususception is that it occurs because of an enlarged Peyer patch.

If intestinal gangrene and infarction have occurred, peritonitis can be suggested on the basis of rigidity and involuntary guarding.

A decreased rate of operative intususception management is noted in specialized pediatric hospitals compared with nonpediatric hospitals. This is attributed to the increased experience with and use of the various radiologic reduction techniques.[2].

One study reported that the overall sensitivity and specificity of ultrasonography for detecting ileocolic intususception was 97.9% and 97.8%, respectively.[3]

Hallmarks of ultrasonography include the target and pseudokidney signs.The presence of ascites and long segments of intususception can be used as sonographic predictors of failure for nonoperative management.[4]

Non operative methods of treatment include hydrostatic reduction or pneumatic reduction under usg guidance . Reduction with barium contrast also used. In all methods air or fluid is instilled through rectum which build a pressure in colon, which help to reduce the intususception..

Cases where it cannot be reduced by an enema or the intestine is damaged require surgical reduction. In a surgical reduction, the surgeon opens the abdomen and manually squeezes (rather than pulls) the part that has telescoped. If the surgeon cannot successfully reduce it, or the bowel is damaged, they resect the affected section. More often, the intususception can be reduced by laparoscopy, pulling the segments of intestine apart with forceps

MATERIALS AND METHOD.

Aim of our study is success of second and third attempts after first failed attempt of saline reduction of intususception in infants. Infants between 5 months to 1 year, presented with Acute intususception are included in the study. Study was conducted over a period of 3 years. All the patients were attempted saline reduction under USG guidance. Patients presented with ascites, peritonitis are excluded from study. Child will be sedated with midazolam. Foley's catheter number 16 inserted to rectum, and bulb inflated with 30ml of distilled water. Saline bottle kept 100cm above the child and connected to foley's catheter. Under USG guidance reduction of mass observed. If the mass is not reducing, saline reduction will be stopped when no further fluid flow inside. All the cases in which intususception mass persisting after the first attempt of saline reduction are included in the study. Total number of cases failed in first attempt were 30. In all these cases saline evacuated through foley's tube and a second at-

tempt was done after 10 minutes. Those cases in which mass persisting after second attempt, a third attempt was done. If the third attempt is failed, patient is taken for laparotomy with manual reduction or resection anastomosis. We are comparing the number of success cases in second or third attempt, which would have gone for unnecessary laparotomy, if directly went for laparotomy after attempt of saline reduction.

Result

Of total 30 cases underwent second attempt, 14 cases were reduced. The rest 16 cases underwent third attempt, of which 4 cases were reduced. Rest 12 cases underwent surgery.

Total number of cases with failed first attempt of saline reduction	30
Number of cases reduced in second attempt	14
Number of cases under went third attempt of saline reduction	16
Number of cases reduced in third attempt	4
Number of cases underwent surgery	12

Total patients with failed first attempt	30
Total number of patients reduced in repeat saline reduction	18
Total number of patients underwent surgery	12
Total patients would underwent surgery, if directly go for surgery after first failed attempt	30
Thus, total patients would underwent unnecessary surgery, if directly go for surgery after first failed attempt	18

If we directly go for surgery after first failed attempt of saline reduction, then the total number of laparotomy required will be 30, of which 18 would be unnecessary. With statistical values if we assess the hypothesis, "repeated attempt of saline reduction will increase the saline reduction success rate and decrease the laparotomy rate."

It would be significant, since 60% (18 out of 30) of patients had success in repeated saline reduction and only 40 % (12 out of 30) cases had failed reduction and operated. (In spite 100% would underwent surgery if we didn't attempt this).

Chi square test showed 25.7143 with P value of 0.00000039 which is significant. Since third attempt the number of success rate drastically reduced, also in order to save time, we didn't go for 4th attempt.

CONCLUSIONS

Some clinicians recommend taking the patient to surgical care if the first attempt fails, and other clinicians advocate 1 or 2 subsequent attempts within a few minutes to a few hours after the first attempt.[5]

Delay between the reduction attempts may place the patient in the "window" of spontaneous resolution, which has been reported with an incidence of 5-6%. In addition, the first attempt can reduce the intussusception partially, making the intussusceptum less edematous, with improved venous drainage.[6]

Some reports have postulated that reduced bowel edema with improved venous drainage is one of the reasons why the success rate of hydrostatic reduction increases with the administration of a second enema. If repeated attempts are unsuccessful, any progress in pushing back the intussusceptum toward the ileocecal valve during operative reduction is advantageous. Delay in performing surgery because of additional attempts at nonoperative reduction has been demonstrated to have no adverse effects on the rates of success of operative reduction and patient morbidity.[6]

Thus literature and our results support our hypothesis that second and third attempt of saline reduction will increase the saline reduction success rate and decrease the laparotomy rate.

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