

EKEHORN'S RECTOPEXY IN THE MANAGEMENT OF RECTAL PROLAPSE IN CHILDREN

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ABSTRACT

Objective: To know the outcome of Ekehorn's rectopexy in the management of rectal prolapse in children.

Material and Methods: This retrospective study was conducted in the Department of Paediatric surgery of Khyber Teaching Hospital, Peshawar from March 2001 to Feb 2004. Patients having the history of rectal prolapse for three months or more and those not responding to medical treatment were included in this study. The Ekehorn's rectopexy was performed to treat the rectal prolapse. All children were called for follow up to the out patient department after every two months for six months. On follow-up visits the post operative complaints like pain at the site of stitch, abscess formation, constipation, and the recurrence of the rectal prolapse were asked and recorded.

Results: Out of fifty-five cases of rectal prolapse, there were 30 (54.54%) males and 25 (45.45%) females. The age ranged from 2 months to 5 years with an average of 2.5 years. History of diarrhoea was present in forty-two (76.36%) and extrophy of the urinary bladder in two (3.64%) cases. In ten (18.18%) patients the cause of the rectal prolapse was not known. After the Ekehorn's rectopexy, no immediate complications were note. All patients were followed for six months. Recurrence of rectal prolapse was noted only in one patient (1.81%) and the success rate was 98.19% in our study.

Conclusion: The Ekehorn's rectopexy offers a simple, minimally invasive and cost- effective surgical technique for the treatment of rectal prolapse in children.

Key Words: Rectal Prolapse, Ekehorn's Rectopexy.

INTRODUCTION

Rectal prolapse is protrusion of rectal tissue through the anus to the exterior of the body. Rectal prolapse may be primary, without any cause, or secondary to some lesions like myelomeningocele, ectopia vesicae, or post surgical.¹ It is a relatively common, self-limited problem in young children. The common age for rectal prolapse is 1 to 3 years.² Anatomic considerations related to this early presentation include the vertical course of the rectum, the relative lack of support by the levator ani muscle, the loose attachment of the rectal mucosa to the underlying muscularis, and the absence of Houston valves in children.³ The predisposing factors include increased intra-abdominal pressure due to straining (as often occurs in toilet training), diarrhoea, parasitic infection, proctitis, polyps, or inflammatory disease, and malnutrition. More than one fifth of children with cystic fibrosis have prolapse.⁴ A greater frequency of pediatric rectal prolapse exists in tropical and underdeveloped countries, where diarrhea and parasitic infection is

common. This condition is diagnosed on the parent's history. Proctoscopy may be required if there is a history of rectal bleeding. Colonoscopy or contrast enema and other diagnostic studies are usually not required.⁵ Treatment of the precipitating cause like diarrhoea or constipation, postponement or limiting toilet training, and medical therapy for parasites or cystic fibrosis usually solve the problem in 1 to 2 months. If prolapse persists for several months after an adequate medical therapy surgical intervention is required. The common surgical procedures practiced for the treatment of rectal prolapse are Thiersch suture circlage, sub mucosal injection of sclerosent in the anal canal, transanal mucosal sleeve resection, and electrocautrization.^{6,7}

The purpose of this study was to know the outcome of the Ekehorn's rectopexy in the treatment of rectal prolapse in our population.

MATERIAL AND METHODS

This prospective study was conducted in the department of Pediatric Surgery Khyber

Teaching Hospital Peshawar from March 2001 to February 2004. All those patients who had rectal prolapse for more than three months and those not responding to medical therapy were included in this study. A thorough history of the onset of the disease, whether it reduces by itself after defecation or parents reduces it and the treatment given was asked. Physical examination was done to note the malnutrition, neuro muscular disorder, extrophy of the urinary bladder.

All the patients were admitted and screened for hepatitis B and C. Rectal enema was given in the morning on the operation day.

The Ekehorns rectopexy was done under general anaesthesia using silk 01 on a curved cutting needle. After recovery from anaesthesia the patient was discharged on antibiotics and analgesics for 7 days. The patient was called for removal of the stitch after 10 days. The parents were asked to bring the child for the follow-up after every 2 months for the next six months to note the recurrence of the rectal prolapse. All the patients were followed up to 6 months.

Technique

The patient is anaesthetized and put in lithotomy position. The area to be operated is cleaned and draped. Digital rectal examination is done. Then two retractors are put in the anus. The silk 01 suture on a curved cutting needle is passed from the skin at one side of the sacrococcygeal joint into the ampulla of the rectum. Then the suture is passed from inside out forming a "U" shaped loop to the other side of the sacrococcygeal joint. The two strands are tied firmly on a small piece of gauze to bring the rectum close to the sacrum. The suture should not be tight enough to cut through the rectal wall. Then sticking plaster is applied on the gauze to prevent soiling with stool.

RESULTS

Fifty-five patients of rectal prolapse were included in this study. The age at presentation ranged from two months to four years with an average of 2 years. There were 30 (54.54%) males and 25(45.45%) female. Mucosal prolapse was present in 12 (21.81%) and full thickness prolapse in 43 cases (78.18%). As shown in table 01, the most common cause of onset of prolapse was diarrhoea in 42(76.36%) cases. The other causes were extrophy of bladder in 02 (3.64%) cases, malnutrition in 01 (1.81%) case. In 10 cases (18.81%) no cause of prolapse could be ascertained.

In all 55 cases Ekehorn's rectopexy was done. There were no complications like bleeding,

constipation, infection, abscess or fistula formation. The only post-operative complaint in our study was pain at the site of the stitch. During the follow up for six months, recurrence of rectal prolapse occurred in one case (1.81%) and constipation, abscess formation was noted in none. The success rate of this technique was 98.19%.

DISCUSSION

Rectal prolapse was more common fifty years ago than now, and this decreased occurrence is due to improved nutrition and hygiene. In developed countries rectal prolapse is due to toilet training of the children, cystic fibrosis while in underdeveloped countries the predisposing factors are diarrhoea, malnutrition and parasitic infection. It is a self-limiting problem in children if the precipitating cause is treated.⁷ The supportive measurements for patients with rectal prolapse are; avoiding the squatting position, minimal straining at defecation and supervised bowel training. Although successful in a large number of patients, it takes weeks and months which annoys the family and is highly unacceptable to many parents.⁸

Surgical intervention is indicated when conservative management fails, there is recurrent prolapse with mucosal ulceration, in patients with myelomeningocele, extrophy of bladder and those who had surgery for imperforate anus or Hirshsprung's disease.⁹ There are more than 50 surgical procedures for the treatment of rectal prolapse and each procedure has its indications and success rate. The main controversy regarding surgical therapy for rectal prolapse is the choice of surgical procedure. All of the procedures have their proponents, and there is no established procedure that can be recommended for all patients. The most commonly done procedures are the Ekehorn's rectopexy, submucosal injection of a sclerosent in the anal canal and the Thiersch stitch.

The Ekehorn's rectopexy is the insertion of a mattress suture with a multi filament material in the ampulla of rectum to the sacrum. The suture causes localized inflammation that leads to the formation of adhesions between the rectal wall and surrounding peri-rectal tissue. In our study we

CAUSES OF RECTAL PROLAPSE

Causes of Rectal Prolapse	No of Patients (n=55)	Percentage
Diarrhoea	42	76.36
Extrophy of bladder	02	3.64
Malnutrition	01	1.82
Idiopathic	10	18.81

Table 1

used single "U" loop for mucosal prolapse and double "U" loop for full thickness rectal prolapse. The only post-operative complaint in our study was pain at the site of the stitch. There were no complications like bleeding, constipation, abscess or fistula formation, which is common in Thiersch stitch. The rectal prolapse recurred in 01 case (1.81%). The success rate of Ekehorn's rectopexy was 98.19% which is almost nearer to the results (100%) of Schepens MA et al.⁹

Sub mucosal Injection of a sclerosent described by Wyllie has a success rate of 90%. The complications of this technique are bleeding, infection, strictures, and abscesses formation at the site of injection.^{10,11} This needs multiple anesthetics for injection at different sessions which is inconvenient both for the parents and patients. The results are good only in partial rectal prolapse while in the complete rectal prolapse this procedure is not much effective.

The posterior presacral rectopexy described by Ashcraft is an effective procedure with a success rate of 93% but the technique needs expertise and long hospitalization.¹² The complication of bleeding, infection, and anal stenosis are higher than the Ekehorn's rectopexy.^{9,13}

The Thiersch stitch which is the most commonly practiced procedure for the treatment of rectal prolapse. It only hide but doesn't treat the pathology of the rectal prolapse. It has the recurrence rate of 10-25%. The most annoying complication is the peri anal pain and abscess formation which leads to the constipation and recurrence of the rectal prolapse. The risk of anocutaneous fistula formation is higher than the other procedures for the treatment of rectal prolapse.

CONCLUSION

Ekehorn's rectopexy is a very simple technique to learn. It is minimally invasive and has good results. In children it is safe, cost effective and associated with fewer complications. The recurrence of the rectal prolapse is much less as compared to the other surgical procedures used in children.

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