

MANAGEMENT OF RECTAL PROLAPSE IN CHILDREN AS A DAY CARE PROCEDURE

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Abstract:

Rectal prolapse is a relatively common self limiting problem in young children. The peak age of prolapse is 2-3 years, a time during which the rectal mucosa is relatively loosely adherent to the underlying muscles, pelvic floor musculature is not fully developed and sacrum is relatively flat which directs increases in intra abdominal pressure towards anus instead of the protected hollow of the pelvis^{1,2}. Rectal prolapse is a very common childhood problem in our country due to frequency of diarrhoeal and parasitic diseases accentuated by lack of personal hygiene and mal-nutrition, Majority of the patients are poor; majority of childhood prolapse are mucosal limited to 2-3 cm from anal verge³. Diagnosis of rectal prolapse is straight forward by inspection and palpation. Colonoscopy and Barium enema are indicated only to exclude any other secondary causes in suspected cases. We have managed 30 (thirty) cases of recurrent rectal prolapse after failure of medical treatment in a prospective study by injection sclerotherapy as a Day care procedure; 5% phenol in olive oil was used as sclerosing agent and the procedure was performed under general anaesthesia and caudal block. The patients were kept under observation for 4-6 hours. 28 (twenty eight) patients responded satisfactorily (93.3%); 2 patients (6.67%) needed open operation -rectopexy. Only one patient was admitted for 48 hours due to reactionary haemorrhage which was managed conservatively. Few patients had minor complications like constipation, diarrhoea and acute retention; all managed conservatively. There was no mortality. Injection sclerotherapy appeared to be a safe, effective and cheap procedure for management of rectal prolapse in children.

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Introduction:

The typical rectal prolapse is a pouting and swollen rosette of mucosa slightly longer posteriorly than anteriorly. Mucosal prolapse usually has radial folds at the anal junction, whereas full thickness prolapse has circular folds in the prolapsed mucosa. Boys and girls are affected equally. Prolapse may be associated with bleeding but not suggestive of bleeding pattern of a polyp. Diagnosis can most often be made when a rosette of mucosa is noted at the child's anus after defecation. The prolapse either reduces spontaneously or must be manually reduced. Prolapse occurs most often during crying or straining or after a diarrhoeal disease or constipation. Any condition leading to tenesmus such as parasitic infestation, dysentery, proctitis, polyps or inflammatory bowel disease may produce rectal prolapse. Often secondary causes in children are neuromuscular problems such as meningo-

myelocele or extrophy of the bladder. A rectal examination should be performed after prolapse is reduced and if there is history of rectal bleeding, should be followed by proctoscopy. Colonoscopy or contrast enema may infrequently be needed to look for polyps or other lead points, no other diagnostic studies are usually required. An acute prolapse may be reduced before oedema and swelling occurs followed by strapping of the buttocks to prevent immediate prolapse. Treatment of the precipitating cause and limitation of straining usually limit recurrence. If prolapse persists or recurs after adequate trial of appropriate medical therapy surgical intervention may be required. Many surgical techniques have been suggested and their variety and number suggest that no single approach is significantly better than other. Injection sclerotherapy can be done as an outpatient basis when prolapse is mucosal or intermittent. Sclerosing agent

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in the form of 5% phenol in glycerine, hypertonic 30% saline or 50% glucose is injected in four quadrants in the rectal submucosa⁴. Upto 90% are successful and complications are few. In rare instance, full thickness prolapse is resistant to non-surgical treatment and operation is required; the options are posterior presacral rectopexy⁵, Ripstein approach⁶, Lockhart Mummery procedure⁷, Ekehon's rectopexy⁸, thierschs suture⁹, Transomal sleeve resection¹⁰, linear cauterization¹¹ etc.

Materials and Methods

This is a prospective study and was carried out in paediatric surgery department of Dhaka Medical college Hospital between November 2005 to December 2007; total no of patients included in this study was 30 (thirty) (n-30).

Inclusion criteria:

Recurrent muscosal prolapse failed after adequate medical treatment. Rectal prolapse due to secondary cause such as polyp, growth, prolapsed intussusception were excluded.

Diagnosis:

All cases presented with typical history of recurrent prolapse followed by automatic reduction or manual reposition. Inspection of the prolapsed mucosa during squatting or straining was diagnostic of rectal prolapse. Per Rectal digital examination and proctoscopy were done routinely.

Routine Blood count (CBC), routine examination of stool and urine, were done for pre anaesthetic check up. Colonoscopy and contrast examination or large gut were not done routinely.

Pre-operative large gut preparation included absolute liquid diet, oral amoxicillin / ciprofloxacin and metronidazole 2 days before procedure; single oral laxative was given on the previous evening. 5% phenol in olive oil was the sclerosing agent used it was freshly prepared from a renowned local pharmacy and was autoclaved one day before the procedure.

Under general anesthesia, at lithotomy position the sclerosing agent was injected at 3,6,9 and 12 o'clock position by 10 cc syringe with wide bore needle strictly in the submucosal plain. Accidental puncture of blood vessel was ensured by withdrawing the piston and

checking for blood after completion of the procedure the rectum was packed with a hot wet mop for 5-8 minutes. The mop was than withdrawn gently and the injection site was checked for any bleeding; then rolled gauze pack soaked in providone iodine solution and lubricated by Xylocain jelly was kept in situ and the patient was sent to observation room by the side or the O.T after recovery from anesthesia.

After 3-4 hours the gauze pack was removed and the patients sent home with proper advice. If needed patients were admitted in the ward. All patients were followed up 3 days, 7 days, 1 month and 6 months after procedure. The cases which failed after sclerotherapy and medical treatment were admitted for open surgery.

Results:

A total number of 30 cases (n-30) were included in this study. Out of them 18 patients (60%) were male and 12 patients (40%) were female (Table -I). Age ranged from 112 to 11 years; maximum number of patients were within 2-5 years (53.33%) (Table -II). Number of patients declined with increasing age possibly due to development of pelvic floor musculature and accentuation of sacral hollow. Complications following injection sclerotherapy has been shown in Table-III.

Table -I
Distribution of Sex (n-30)

Sex	No. of patients	Percentage
Male	18	60%
Female	12	40%

Male to female ratio 3 : 2

Table -II
Age distribution (n-30)

Age in years	No. of patients	Percentage
1.5-2	04	13.33
2-5	16	53.33
5-8	06	20
8-10	2	6.67
10-11	2	6.67

This table shows rectal prolapse mainly occurring in early childhood and gradually declining in later childhood.

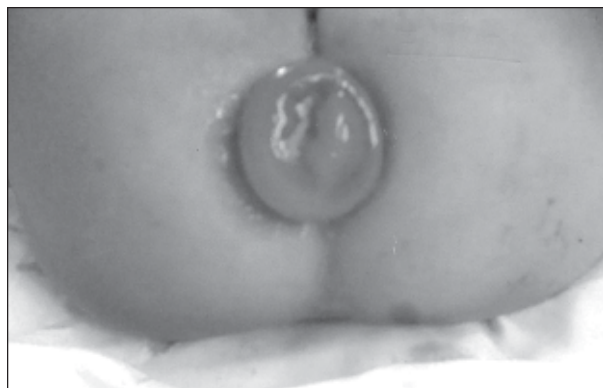


Fig.-1: Mucosal prolapse in a 3 years old male child



Fig.-2: Mucosal prolapse in a 2 1/2 years old female child

Table -III
Complications after sclerotherapy

Complications	No. of patients	Percentage
Primary hemorrhage (Brisk bleeding from injection site not significant controlled by a hot wet mop for 5 minutes)	12	
Reactionary hemorrhage	1	
Secondary hemorrhage	None	
Acute retention of urine	2	
Fever	5	
Abscess/ Septicaemia	None	
Diarrhoea	2	
Constipation	4	
Recurrence	2	

Discussion:

In children rectal prolapse occurs most often during crying or straining or after a diarrhoeal illness or constipation¹; in addition parasites, proctitis, polyps or inflammatory bowel disease may result in rectal prolapse due to tenesmus. Diagnosis is straight forward in most cases; a digital rectal examination should be performed after the prolapse is reduced-spontaneously or manually and if there is a history of rectal bleeding should be followed by proctoscopy. Colonoscopy and contrast enema may infrequently be needed to look for polyps or other lead points, no other diagnostic studies are usually required¹².

An acute prolapse may be reduced easily before oedema and swelling occurs and the parents must be taught to reduce the prolapse promptly after recurrence; if oedema has been formed gentle squeezing pressure may be needed. Treatment of the precipitating cause and limitation of straining usually limit recurrence. Improvement of diarrhoea or constipation, postponement or limiting toilet training and medical therapy for parasites, amoebiasis and health education to improve hygienic condition may solve the problem in 1-2 months. If prolapse persists for several months after an adequate trial or appropriate medical therapy surgical intervention may be required.

Injection sclerotherapy for recurrent mucosal rectal prolapse may be carried out as a day care procedure under general anaesthesia. Sclerosing agent in the form of 5% phenol in glycerine, hypertonic 30% saline or 50% glucose is injected in 4 quadrant strictly in the submucosal plain, the technique has been well described by wyllie¹³. Upto 90% of first treatment are successful and complications are few. Bleeding, infection, strictures and abscesses have all been reported occasionally.

In rare instance, full thickness prolapse is resistant to non surgical treatment and operation is required, the options are presacral rectopexy, Ripstein approach, the lockhart-Mammery procedure, Ekhn's rectopexy, thiersch suture, transverse sleeve resection, linear cauterization etc.

In this study, 30 patents were studied (n-30); 18 cases were male (60%) and 12 were female (40%) Male; female was 3:2 showing slight male preponderance. Earliest presentation in this study was at 1.5 years. Maximum presentation was in early childhood between 2-8 years; more than 50% patients presented between 2-5 years. Poor development of pelvic floor musculature and sacral hollow and loose attachment of rectal mucosa to underlying muscles may be responsible for relative high incidence during this age group. Diarrhoea, dysentery are also frequent in our country during this period. Only mucosal prolapse not responding to adequate medical treatment were included in this study. In this study diagnosis was made from typical history, inspection of rosette of mucosa at the child's anus after defecation, crying or straining; per rectal digital examination and proctoscopy were done routinely to exclude polyp or any mass lesion inside rectum. Sweat test for cystic fibrosis was not done because these disease is fortunately rare in our country. and none was found during this study period.

It is assumed that the sclerosing agent produce an inflammatory response and scar with considerable submucosal and perirectal fibrosis which prevents prolapse by causing adhesion of loosely adherent rectal mucosa to the underling muscles ¹³.

Complication following injection sclerotherapy has been listed under table - III, primary bleeding during injection could be minimized if the correct submucosal plain can be reached. Inflammatory oedema of the prolapsed bowel was corrected by conservative treatment prior to injection which could reduce bleeding and sepsis during and after injection. Only one patient in this study was admitted for reactionary hemorrhage it was treated by packing the rectum overnight under sedation; no blood transfusion was needed. Two patients needed catheterization for acute retention which is common after any perianal procedure or surgery. Catheter was removed after 48 hours. Five patients had fever of mild to moderate degree but responded satisfactorily to antibiotics - ciprofloxacin, metronidazol, and

hip bath with providone iodine solution. Four patients had constipation for 1-2 weeks; stool softeners in the form of syp. lactulose and liquid paraffin for 2 weeks. All patients were advised to take plenty of vegetables and liquid to avoid constipation. There was no evidence of septicaemia and abscess formation. Two patients had recurrence of prolapse after injection; one of them was received injection sclerotherapy on 2nd occasion after 3 months and there was no recurrence; further injection was not given is the other case due to constipation. Rectal dilatation with Hegar's dilator solved the problem of constipation and later presacral rectopexy was done. There was no mortality or troublesome morbidity in this study.

Conclusion:

Management of mucosal rectal prolapse in children by injection sclerotherapy as a day care procedure is safe, cheap and effective. Avoidance of constipation, early treatment of diarrhoea and adherence to personal hygiene by patient and care givers are needed to avoid recurrence. Prior bowel preparation, reduction of inflammation of prolapsed bowel and proper sterilization of the sclerosing agent are needed to prevent infection or septicemia. However large scale study should be carried out to establish this method of treatment of rectal prolapse as safe and effective.

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