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An Integrated Approach to Rectal Prolapse in Children

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ABSTRACT

Rectal prolapse is protrusion of some or all layers of wall of rectum. In infants, the prolapse usually involves all layers of wall of rectum called as complete prolapse or Procidentia. In children its incidence is higher during first year of life. It has several causes such as constipation, diarrhoea, malnutrition, muscular weakness, worm infestation etc. but mostly it occurs due to straining associated with chronic constipation. Usually it is a self-limiting entity most of which resolves spontaneously within 1 year of life. It is managed by dietary modification, toilet training along with some sort of conservative treatment but sometimes it may require surgical treatment. In Ayurveda, it is described as *Gudabhransha* and caused by excessive straining and diarrhoea. There are several treatments available in Ayurveda which can help in early resolution of disease or reduce the chances of having surgery for correction. In this review article we assess the various treatment modalities available in Ayurveda along with contemporary medical science which can be used in the better management of Rectal Prolapse.

Key words: *Rectal Prolpase, Procidentia, Gudabhransha.*

INTRODUCTION

Rectal prolapse is herniation of some or all layers of wall of rectum through anus which may be classified as partial and complete rectal prolapse. When superficial layers of wall of rectum particularly mucosa and sub-mucosa protrude through anus, it is called as partial or mucosal rectal prolapse while complete or full thickness rectal prolapse or procidentia is a condition in which all four layers of rectal wall including muscular layer and serosa herniate through anus. In Partial Rectal Prolapse protrusion of rectal wall is between 1.25 and 3.75 cm outside of anal verge while in Complete Rectal Prolapse protrusion of rectal wall occurs more than 3.75 cm.[1] Diagnosis of rectal prolapse includes physical examination by Digital Rectal Examination after proper history taking. Patient complains of prolapse of lumpy mass along with mucus discharge per rectum due to straining during defecation or even coughing or crying. Although it is self-limiting condition but some sort of conservative treatment is required to reduce the chances of its chronicity and surgical intervention. Management of rectal prolapse includes dietary modification, toilet training, treatment of constipation and worm infestation. Surgical intervention may be required for the cases who failed to respond conservative treatment. Injection sclerotherapy may be tried before going for surgical treatment. Although there are several types of surgical procedure are developed to treat refractory rectal prolapse while few of them are used in practice such as Thirsch's Procedure, Delorme procedure, Altemiere'sprocedure.[2] In Ayurveda, Rectal Prolapse is described as *Gudabhransa*. *Acharya Sushruta* described *Gudabharansa* as a *Kshudra Roga*. According to *Sushruta* in weak person with less supportive musculature, rectum gets prolapsed out

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from anus due to vitiation of *Vata Dosha* along with excessive straining during defecation and diarrhoea.[3] *Acharya Vagbhatta* described it as a complication of *Atisara* (diarrhoea) and its management is discussed in the context of *Atisara*.[4]

Epidemiology

Partial or mucosal rectal prolapse is usually found in infants and children while complete or full thickeness rectal prolapse or procidentia occurs mostly in adults. Complete prolapse is uncommon in children. In adults, it can occur at any age, but it is more common in the elderly. Women are affected six times more often than men, and it is commonly associated with prolapse of the uterus. In the Middle East and Asia, complete rectal prolapse is not uncommon in young males. In approximately 50% of adults, faecal incontinence is also a feature.[5]

Aetiology

In infants, the direct downward course of the rectum, due to the undeveloped sacral curve, predisposes to this condition, as does the reduced resting anal tone, which offers diminished support to the mucosal lining of the anal canal.[6] In children, mucosal prolapse often commences after an attack of diarrhoea, or from loss of weight and consequent loss of fat in the ischiosrectal fossae.[7] According to *Acharya Sushruta* vitiation of *Vata Dosha* along with excessive straining during defecation and diarrhoea in person with weak supportive musculature cause prolapse of rectum.[8]

Clinical Features

Patient has feeling of heaviness and something coming out from anus during defecation or other activities which raise intra-abdominal pressure such as sneezing, coughing etc. Excessive mucus discharge, tenesmus and constipation are other important features of rectal prolapse.[9]

Diagnosis

Digital Rectal Examination and Proctoscopy helps in differentiating rectal prolapse from other similar conditions of rectum and anal canal. Anorectal manometry is useful in assessing the tone of anal sphincters by measuring the normal and squeeze pressure of anal canal. Confirmation of diagnosis can be made by asking patient to strain at stool on which rectum descends down, which clinches the diagnosis.[10]

Differential Diagnosis

Rectal prolapse can be differentiated from Intussusception in which a deep groove can be felt between emerging protruding mass and the margin of the anus. Rectal prolapse can also be differentiated from prolapsed internal haemorrhoids which have plum coloured mucosa instead of pink and more pedunculated.[11]

Prognosis

Rectal prolapse of children is very rarely life threatening. In infants it usually gets resolved spontaneously within first year of life as sacral curve supporting musculature develop with growing age. In children with age more than one year, rectal prolapse usually require dietary modification along with some conservative medications to treat the constipation. Occasionally, children failing to respond conservative treatment for more than 6 months may require surgical intervention to fix their prolapsing rectal wall.[12]

Management

1. Parents counselling

Prognosis and chances of spontaneous resolution of disease should be discussed with parents. Parents should be educated about the need of keep reducing the prolapsed part of rectum until the spontaneous reduction occurs.

2. Spontaneous Resolution

One should wait at least for one year before going for any major medical or surgical intervention as condition get resolved within first year of life. During that period child's bowel habits should be regularised by treating constipation effectively. Along with that manual reduction of the prolapsed part at regular intervals should be ensured to avoid possible complications.

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3. Digital Repositioning[13]

With the use of index finger, protruded part is reduced towards inside after proper *Snehana* and *Swedana Karma*.[14] These *Karma* help in improving the flexibility of perineal muscles and anal sphincters which make easier reduction of protruded part. These *Karma* also help in strengthening of these perineal muscles and sphincters by improving the tone of these muscles which make them capable enough to hold back the protrude part of rectum after manual reduction.

4. *Gophana Bandha*

Acharya Sushruta mentioned T- Bandaging as *Gophana Bandha* in *Gudabhransha* to fix the protruded part of rectum so that it can be prevented from prolapsing further during defection or whenever intra-abdominal pressure increases up.[15]

5. Intermittent *Swedana*[16]

Acharya Sushruta has mentioned *Muhurmuhu Swedana Karma* in *Gudabhransa*. *Swedana Karma* renders rectal wall flexible enough to reduce easily and helps in retaining it improving the tone of anal sphincters.

6. Dietary modification

To treat Constipation, adequate fluid and fibre intake must be ensured. For adult, daily fibre intake of 30-40gm is recommended by WHO and ICMR. For children, 5gm per day plus additional 1gm per year of age of fibre is recommended to maintain the optimal bowel habits and treat constipation. In infants, milk mixed with ghee and extra sugar is best for treating constipation. In children, lukewarm milk with *Draksha* can be given to regularise bowel habit.

7. Medications

Bulk forming agent such as Psyllium husk along with stool softners such as Polyethylene Glycol may be prescribed to treat constipation in children. *Changeri Ghrita* with milk can also be used internally to relieve constipation in infants too. *Changeri Ghrita* can also be used externally as lubrication agent for easy reduction of prolapsed part of rectum. *Anuvasana Basti* with *Bala Taila* may be useful for treating constipation along with that providing Balya properties of *Bala Taila* it strengthens the anal sphincters by improving the tone of sphincters. *Anuvasana Basti* with *Dashmoola Taila* may be advised to treat constipation as *Dashmoola* is best for pacifying the *Vata Dosha*. *Balya* drugs such as *Balarishta*, *Ashwagandhadi Leha* may be prescribed to enhance the development of supporting musculature of rectum. *Musika Taila*[17] is made from *Vrahtapanchamula Drvayas* along with *Mushika's* intestine processed with *Eranda Taila*. This *Taila* can be used for oral ingestion along with local application at prolapsed part before repositioning it manually. This improve the tone of anal sphincter and rectal wall resulting in retaining of rectum wall inside.

8. Kegel Exercises or Pelvic Floor Exercise

These type of exercises can be advised to school going and elder children who are able enough to understand and perform these exercises which are good for muscles strengthening. Repeatedly contracting and relaxing the muscles of pelvic floor and perineum help in to improve the tone and strength of muscle of pelvic floor. Intermittent squeezing of rectal mucosa helps in improving the tone of muscles of rectal wall and perianal sphincters.

9. Sclerotherapy

Submucosal injection of 5% almond oil in phenol into rectal mucosa triggers aseptic inflammation resulting in tethering of mucous membrane to muscle layer.[18]

10. Surgery

Children after the age of 4 years or failing to respond to conservative treatment for at least 6 months may require surgery to fix their rectal wall. To treat rectal prolapse there are several surgical procedure mentioned in medical literature with variable rate of recurrence without any clear superiority. The surgery can be performed either via perineal or abdominal approach. As children mostly have partial rectal prolapse so procedures with perineal approach such as Thiersch's procedure, Delorme'e procedure, Altmiere's procedures etc. are most commonly

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practiced in them. While abdominal approaches such as Well's operation and Ripstein's operation are reserved for elder children with complete rectal prolapse. As abdominal procedures risk damage to pelvic automonic nerves, resulting in possible sexual dysfunction, perineal approaches is usually preferred.[19]

CONCLUSION

In rectal prolapse of infants a holistic approach of manual reduction along with dietary modification should be adopted towards facilitating its spontaneous resolution without any untoward complications. In children along with dietary modification some medications for may be prescribed to treat constipation and regularise bowel habits of child. Medications for external application may also be advised to lubricate prolapse part before manual reduction strengthen the tone of perineal muscles and perianal sphincters. Usually conservative treatment is quite successful if underlying constipation is treated adequately. Children failing to respond to conservative treatment may be advised for surgery to fix prolapsing rectal wall.

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