Singhal's modification of Thiersch's operation for prolapse of the rectum in children

G. D. Singhal

Paediatric Surgery Division, Department of Surgery, Surgical Services, Children Hospital, Institute of Medical Sciences, Banaras Hindu University, Varanasi-221 005, India

Abstract. Rectal prolapse is a common problem in India. The usual method of treatment, by Thiersch operation, may fail due to wound infection, a consequence of the practice of using water for ablation by several sweeping anteroposterior motions of the hand. Once infection has occurred, it has been found necessary to remove the wire. For this reason, it is suggested that the Thiersch operation may be modified to minimize the risk of infection and increase the cure rate. The technique of modification is described and comments are made in the light of pertinent literature.

Key words: Prolapsed rectum — Singhal's modification — Thiersch operation

Introduction

Prolapse of the rectum in children is of considerable historical interest and has been noted from time immemorial. It is a frequently encountered pediatric surgical problem in India.

Susruta (500 B.C.) of Varanasi, India, described it as gudabhramsa: "Due to straining and diarrhoea the rectum comes out in the dehydrated and emaciated person; that is called prolapse rectum" [13]. Susruta Samhita, the ancient Indian surgical treatise, described its other aspects, including treatment by medicated recipes and other conservative methods [14]. Ambrose Pare (quoted by [12]) cited Hippocrates' advice for cases of difficult irreducible prolapse as follows: "the patient hanging by his heels be shaken for so, the gut by that shaking will return to its place."

Materials and methods

Various operations, e.g. rectal fixation [6, 11], obliteration of the hernia sac [9], repair of the external sphincter and levator ani muscles [7], transabdominal repair of the pelvic diaphragm [3], rectosigmoidectomy [8], submucous injection of absolute alcohol to create adhesions between mucosa and muscles [4] Marlex mesh abdominal rectopexy [5], a subcutaneous catgut suture around the anus [10, 15], linear cauterization of the mucosa, and Thiersch's operation [2] have been described to treat it. The large number of suggested procedures shows that a satisfactory technique is yet to be found.

Thiersch's operation

Thiersch's operation [1, 16], a simple procedure, is equally effective for complete prolapse of the rectum in infants, children, and the aged. It is of great value where major surgery is contraindicated. The midline anterior (12 o'clock) and posterior (6 o'clock) incisions (Fig. 1 A) of Thiersch's operation frequently become infected in oriental patients who use several posteroanterior sweeping motions of the left hand with water over the perineum for ablation (Fig. 2), necessitating removal of the wire which acts as a foreign body, perpetuating sepsis and thus leading to failure of the operation.

Suggested modified technique

Preoperative considerations

Careful preoperative assessment of the patient is essential and must include present, past, and family histories in order to determine the mode of onset and the duration and progress of the disease. A general examination is necessary to exclude underlying causal factors such as cough, urethral obstruction, vesical calculus, constipation, etc., and must be supplemented by local examination of the anorectal region and prolapsed bowel to determine the cause, type, and degree of prolapse and the condition of the anorectal mucosa and anal sphincter. Any factor producing anal irritation must be excluded, e.g. threadworms. Where appropriate, routine blood, urine, and stool tests and other relevant investigations are performed and appropriate corrective therapy instituted. Sphincter exercises are taught to the older children for a few weeks and faulty
Fig. 1. A Incisions at 6 and 12 o’clock in the standard Thiersch operation. B Incisions at 3 and 9 o’clock in Singhal’s modification of Thiersch operation

Fig. 3. Singhal’s modification of Thiersch’s operation for the treatment of prolapsed rectum in children. A Incisions at 9 and 3 o’clock. Needle with wire passed superiorly 1 cm from the anal margin. B Needle with wire withdrawn at 3 o’clock and passed again from 3–9 o’clock position inferiorly. C Finger of the assistant in rectum while the wire knot is tied and cut. D Final appearance

Fig. 2. Photograph showing the oriental method of ablation by water

habitats of squatting for hours and purposeless straining during defecation are corrected before operation

Operative considerations

General anesthesia is preferable to local infiltration, as the latter is likely to be associated with postoperative infection [1]. The patient is placed in the lithotomy position and two small skin incisions – referred to as “skin nicks” – are made at the 3 and 9 o’clock positions 1 cm from the anal verge using a tenotomy knife (Fig. 1 B). A number 20 stainless steel wire suture on a curved cutting needle is inserted through the 9 o’clock incision, passed around the anterior half of the anus, and pulled out through the 3 o’clock incision (Fig. 3 A). The needle with the wire is then reinserted through the same incision and passed around the posterior half of the anus to emerge finally at the 9 o’clock incision (Fig. 3 B). The needle is then removed. The two ends of the wire are carefully twisted while an assistant maintains a finger in the anal canal and reports when the wire is sufficiently tight to admit the forefinger comfortably, allowing the proximal interphalangeal joint to move snugly through it (Fig. 3 C).

The twisted wire is cut to a few millimeters and turned back with a Kocher forceps so that the ends are buried in the subcutaneous tissues and do not project toward the skin. The wounds are closed by one suture each or may be sealed using tincture of benzoin. The surgeon should then confirm, by palpation, the tightness of the ring and the satisfactory positioning of the wire tail. To prevent wound infection, the assistant keeps his finger in the anus until the dressing has been completed.

Postoperative care

The patient is instructed to defecate in the recumbent position for 15 days; alternatively a Western-style toilet may be permitted, but the squatting posture is prohibited. Confinement to bed is required for a few days. Neither laxative nor constipative drugs are necessary. The patient is advised to eat and otherwise behave normally from the 1st postoperative day. A finger is also passed at intervals of a few days to ensure that accumulation of faeces is not occurring. If necessary, a glycerine suppository is prescribed on the 3rd day. The sutures are removed on the 6th or 7th day. During the postoperative period, the patient is asked to clean the anal cleft with cotton wool soaked in Dettol and water following each motion.

Illustrative case report

Manju, a 2-year-old girl (Hospital No. 3957/65, resident of Varanasi), was admitted to the Pediatric Surgical Services of