Paediatric rectal prolapse in Rwanda

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SUMMARY

During the 1994 crisis in Rwanda, a high incidence of full-thickness rectal prolapse was noted among the refugee children in the south-west of the country. The prolapses arose as a result of acute diarrhoeal illness superimposed on malnutrition and worm infestation. We used a modification of the Thiersch wire technique in 40 of these cases during two months working in a refugee camp. A catgut pursestring was tied around the anal margin under local, regional or general anaesthesia. This was effective in achieving short-term control of full-thickness prolapse until the underlying illness was corrected. Under the circumstances, no formal follow-up could be arranged; however, no complications were reported and only one patient presented with recurrence.

INTRODUCTION

During the deployment of 23 Parachute Field Ambulance with the United Nations Force in Rwanda we worked in Kibeho refugee camp. This camp in the south-west of the country resulted from the mass exodus of people from the rest of Rwanda after the success of the Rwandan Patriotic Army in July 1994. The camp spread over a 5 km radius and contained up to 80 000 people living in twig and leaf shelters. When the Field Ambulance arrived, diarrhoeal diseases and intestinal worm infestation were rife, and large numbers of children presented to us with full-thickness rectal prolapse (Figure 1). Here we describe our experience with a modified Thiersch wire technique to maintain reduction.

Figure 1 **A child with rectal prolapse**

METHODS

Initially the rectal prolapses were reduced manually and the child was sent home with a course of mebendazole and oral rehydration solution. Soon we realized that many prolapses were not responding to conservative management and the patients were returning next day. In many, the sphincter muscles were so severely stretched that the prolapse re-emerged under gravity.

Over 8 weeks in selected patients, we inserted subcutaneous pursestring sutures around the anus to hold the reduced prolapse in place. Indications for operation were recurrent prolapse after one trial of conservative management, or a totally patulous anus on first presentation. Patients presented directly to us via their mothers or were referred by aid workers from other organizations. The procedure was initially performed under local anaesthesia with infiltration of 1% lignocaine but this was found unsatisfactory. Sacral block with 0.5% lignocaine gave good anaesthesia but was sometimes unsuccessful because the solution did not get into the sacral space. Intramuscular ketamine, 7.5 mg/kg, was found to be the most effective and best method of anaesthesia.

The prolapse was reduced and the perianal skin was cleaned with Betadine. Two tiny radial stab incisions were made through the skin about 1 cm from the anal margin at 6 o'clock and 12 o'clock. A 1 chromic catgut suture was inserted from posterior to anterior incision, then back around the other side of the anus. The tip of an assistant's little finger was inserted into the anal canal and the suture was tied down. The incisions were left open.

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Patients treated under local anaesthesia were discharged immediately, the others when the ketamine had worn off. Their mothers were asked (via interpreters) to bring the child back if the prolapse recurred or the child was unable to defaecate. They were told that the suture would dissolve and would not need removing. Routine follow-up was impractical in the setting of a large refugee camp.

RESULTS

40 procedures were performed over 8 weeks, in 22 boys and 18 girls. The patients' ages ranged from 6 months to 7 years (mean 4.35 years). Most patients were not seen again, but five returned after their procedures—three for other reasons; one with his brother, who also had a prolapse, which we reduced and sutured; and one (a 4-year-old boy) with recurrence of prolapse due to breaking of the suture, 2 weeks after it had been inserted.

DISCUSSION

In the UK rectal prolapses in children are usually mucosal or partial thickness rather than full thickness, and are commonly attributable to constipation. The usual cause of full-thickness prolapses is cystic fibrosis or a neurological disorder[1]. Prolapse to the extent we saw in Rwanda is rare except in children with pelvic floor abnormalities or congenital muscular weaknesses. In the absence of an underlying disorder, paediatric rectal prolapses in the UK usually resolve spontaneously, although a few require further treatment such as mucosal injection with phenol.

The patients in Rwanda had full-thickness prolapses without any pre-existing structural abnormality. The age distribution is also different from that in the UK, where most rectal prolapses in children present before 2 years of age; in our study, the mean age of the patients was 4.3 years. Severe acute or chronic diarrhoea, helminth infestation and malnutrition are well recognized precipitants[2]: severe and prolonged stretching of an essentially normal sphincter mechanism, on the background of weakness due to malnutrition, results in gross full-thickness prolapse. In most of our cases, the pelvic muscles were so severely stretched that the prolapse recurred under gravity when the child stood up after reduction. Some showed swelling and ulceration of the rectal mucosa. A short-term method was needed to control the prolapse until the diarrhoea and worm infestation could be corrected medically.

In the squalid conditions of a refugee camp a simple solution was required, and the Thiersch technique was deemed the most practical option. The original operation, developed by Carl Thiersch in 1891, used a subcutaneous wire pursestring and was at one time widely used for controlling severe full-thickness prolapse in the elderly. It lost favour because of the recurrence rate, partly due to breakage of the suture. Non-absorbable sutures or tapes are now used in preference to wire.

In our series the suture was used as a short-term measure, and absorbable material seemed most appropriate, especially in a setting where most children would not reattend. Were the results satisfactory? We cannot say, except that we think patients with complications or recurrence would have been brought back. In the refugee camp a randomized trial was not feasible. Over the 2 months of the study the camp sanitation improved and clean water sources were established. The prevalence of acute diarrhoeal disease declined and a deworming programme was instituted. The numbers of children presenting with severe rectal prolapse also diminished.

In 1958 Stephens[3] reported using catgut pursestrings in a similar way to control mucosal prolapses in children; and more recently Groff and Nagaraj[4] used a prolene pursestring. In the latter series, six of the patients had otherwise normal anorectal anatomy and the Thiersch technique was found to be reliable. Although it may not be the method of choice in the developed world, in the setting of a refugee camp we submit that it has great merit.

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