

## POST-OPERATIVE ANORECTAL FUNCTIONAL DISTURBANCES IN CHILDREN IN CALABAR, NIGERIA

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**SUMMARY** Between January 1993 and December 2001, 84 children aged between 0 and 15 years were treated with functional problems of the anorectal region following surgical operations in the region. The age of maximum presentation was the 6 – 10 years age bracket. The main presenting complains were faecal soilage and poor bowel habit. The children notably presented late and they sought medical attention as a result of societal embarrassment at school. Before this age the child was within the home environment hence parents may not bother. Complications from anal agenesis operation accounted for the majority of patients 45 children (54%) while Hirschsprung's disease accounted for 39 patients (46%). Treatment in all cases started conservatively with diet manipulation, cleansing enema and physiotherapeutic training. However, with non improvement in faecal soilage, a simple repair involving a narrowing at the anorectal function was carried out. In a follow-up period of between 6 – 12 months, 45 children had satisfactory clinical status while in 27 children their general conditions had improved. The late presentation may have contributed to the overall improvement as the fibres of the external sphincter muscle perhaps have further developed.

**Keywords:** Functional disturbances, faecal Incontinence, constipation, stenosis

### Introduction

Children who have undergone anorectal surgery, post operatively do experience various degrees of functional disturbances (Nixon, 1978). These operations though desirable in order to correct the basic pathologies affecting the anorectal region like anal agenesis and another post operative functional problem, (While, 1978). These functional disturbances can manifest in the form of faecal incontinence with perineal soilage, constipation and of lesser magnitude structural deformation of the anal sphincter mechanism with resultant stenosis. The pattern of these conditions in this region had not been documented. This study was therefore undertaken to evaluate the pattern of the condition with a view to offering various treatment options to this group of patients.

### Patients and Methods

This is a prospective study of all children who reported post operatively with complains related to complications of anorectal surgery at the University of Calabar Teaching Hospital, Calabar (UCTH), the Faith Foundation Specialist Clinic, Calabar or were referred to the UCTH from various hospitals and clinics with the catchment areas of the Hospital from January 1993 to December 2001. The UCTH is the only tertiary health institution serving the southeastern region of the country with a population of about 7 million. (1991 census). To be eligible to be

included in this study, the patients must fulfil the following 3 criteria:

- (1) Be aged 16 years and below
- (2) Must have been operated previously for anorectal abnormality.
- (3) Must be having post-operatively, complications as a result of the previous anorectal operation.

Questions were asked in an attempt to determine the degree and type of post-operative complications (d). physical examination focussed on the nutritional status of the patients and the tone of the anal sphincter by attempting the anal squeeze test. Relevant laboratory investigations included blood count and stool microscopy for parasites.

The patients were all grouped according to the complications and the operation records of the primary operation were reviewed. In the group with constipation, the treatment commenced was diet manipulation whereby "bulky" food substances were prescribed as stool softeners to encourage peristalsis. For the training in the act of defecation and reactivation of the sphincter mechanism, training enema at the same time in the mornings were instituted and the child made to defaecate in portions and not just once.

In the group with faecal incontinence as demonstrated by soilage, the treatment started with conservative measures, which included daily cleansing enemas in the mornings. Physiotherapy was then

commenced which constituted of the child being made to partake in the anal squeeze test. The test was done with the examining index finger in the rectum, the child is requested to squeeze maximally, in order to assist the training of the sphincter muscles and strengthen the pelvic floor, with diets low in fibres.

Failure of this conservative measure within 6 months to improve on continence necessitated an operative repair, which consisted of a circumscribed incision around the anal margin, and the dissection carried forward until about 3–4 cm of the anal serosa is exposed. Interrupted absorbable sutures are then applied in such a manner as to bring any remnant of the external sphincter muscle in apposition with the anal serosa all the way round. At the end of the operation the same examining index finger used in the anal squeeze test is inserted into the anal canal and the grip is adjudged correct when the index finger slips firmly through. The overlying skin is thereafter closed using non-absorbable

sutures to allow for sitzbathing, which is removed as the wound heals.

In the group of patients with stenosis, bouginage was instituted with a step-wise increase in the size of the bougie. The frequency of the bouginage varied, initially it was prescribed daily, then alternate days and thereafter about 2 times a week till satisfactory results were obtained.

The patients were all placed on high protein diets with lots of vitamins and active physical activity.

## Results

During the period of this study 84 children were treated in the UCTH with functional disturbances. These were made up of 43 boys and 41 girls with the age of greatest presentation being the 6–10 years age bracket. No child under 1 year presented. Table 1. Complications from anal agenesis operation accounted for the majority of the patients – 45 children (54%), while complications from aganglionic megacolon operations was seen in 39 children.

**Table 1** Age and sex distribution in 84 patients who presented at the UCTH with complications of anorectal operations.

Sex/Age	Under 1	1-5	6-10	11-15	Total	(%)
Male	-	9	21	13	43	(51.2)
Female	-	11	18	12	41	(48.8)
Total	-	20	39	25	84	(100)

**Table II:** Complication of anorectal operations seen in the 84 patients who presented at the UCTH.

	Faecal Incontinence	Constipation	Stenosis	Total	(%)
Anal agenesis	25	12	8	45	(54)
Aganglionic megacolon	23	11	5	39	(46)
Total	48	23	13	84	(100)

**Table III:** Result of treatments in 84 children who presented at the UCTH with complications of ano-rectal surgery

Conditions that the patients presented with	Cured	Improved	No Improvement	Total	(%)
Faecal incontinence	27	15	6	48	(57.1)
Constipation	11	7	5	23	(27.3)
Stenosis	7	5	1	13	(15.5)

The symptomatology varied with the complications but faecal incontinence with soilage was the dominant symptom accounting for 48 patients (57%), constipation was seen in 23 patients and presented with inability of the child to defaecate freely despite having "good gize" anal canal, while anal stenosis in 13 patients presented with anal verge scarring resulting in "pin-hole" size anal canal. Table II. Traditionally majority of these patients had been administered herbal enemas before presentation in the hospital.

The result of treatment showed that 45 children were cured of their conditions in which case, the faecal soilage was no longer available and constipation was no longer experience while in 27 children their general conditions had improved with occasional soilage and constipation had to be relieved with long intervals of enema. However in 12 children the general conditions never improved, necessitating continuous, repeated and often costly hospital admissions.

Overall, in a follow up period of 6 – 12 months, proctitis was seen in 11 children and perineal skin irritation in 6 children. Diet manipulation, daily enema and psychotherapy was continuously applied to these 12 children whose treatment outcome was poor as a way to improve the sanitary conditions of the patients. No mortality was recorded in this survey.

### Discussion

Complications of anorectal surgery namely faecal incontinence, constipation and anal stenosis is well documented in the literature (Baeten et al, 1995). However, the treatment modalities for this group of conditions differ widely suggesting that no common consensus on the treatment exist and the frustration of surgeons with no satisfactory outcome. Several authors (Vaizey et al, 1998) however are still in search of procedures to

ameliorate these conditions. Some of these procedures are expensive (Kamm, 2001) and barely affordable even in societies with social benefits. However expensive as they may be, no procedure has satisfied all the criteria needed in the treatment of these complications (Kamm, 2001). Majority of these patients however have conditions that are correctable by less invasive procedures (Johnson et al., 1996).

The increased public awareness of the last decade within the region, of the societal normalcy of babies with anorectal anomalies resulted in increased presentation of these patients in hospitals, culminating in referrals to our centre for definitive operation. These patients are those that presented latter with complications of earlier childhood operations.

Children in this survey reported late for medical assistance unlike in order series (Johanson et al, 1996) and during the school age period. This is when the child is away from the home environment and because of societal embarrassment like faecal soilage or inability in defaecate freely the parents are forced then to seek medical assistance.

The simplified approach to the treatment of these complications was undertaken with our environment in mind and the results obtained were however satisfying. The procedure of narrowing at the anorectal junction leaves a considerable length for control. The implication of this is that, the patients were able to "identify" when the rectum was distended and therefore should be emptied, hence the urge to defaecate. It was however helpful than the Thiersch's stitch (Archibong, 1996) which narrows only at the anal verge leaving the rectum to be loaded with faeces with resultant over-flowing.

Constipation in this survey was relieved using diet manipulation while stenosis was with bouginage at regular intervals but considerable length of time. It may then be

argued that persistence and tolerance of both the physician and patient in undertaking this therapy is the yardstick for satisfactory outcome. It may also be that the age of presentation at 6 years and above develops the child psychologically. The fibres of the external sphincters at this age are better developed, hence the satisfactory results as obtained in this series. The dietary habit of the people in the region with lots of vegetables, fruits and fibres make for effective use of diet manipulation, which complimented other

procedures adopted in the series and helped to improve the outcome.

In conclusion therefore it can be assumed that the increased medical awareness of the populace within the last decade accounted for the increased presentation of anorectal anomalies in our centre. The complications arising from this anorectal operation of early childhood may best be treated at the age of 6 years and above when the fibres of the external sphincters have further developed and the child psychologically aware of his environment.

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