RECTAL PROLAPSE
IN
INFANTS AND CHILDREN

Thesis

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General Surgery

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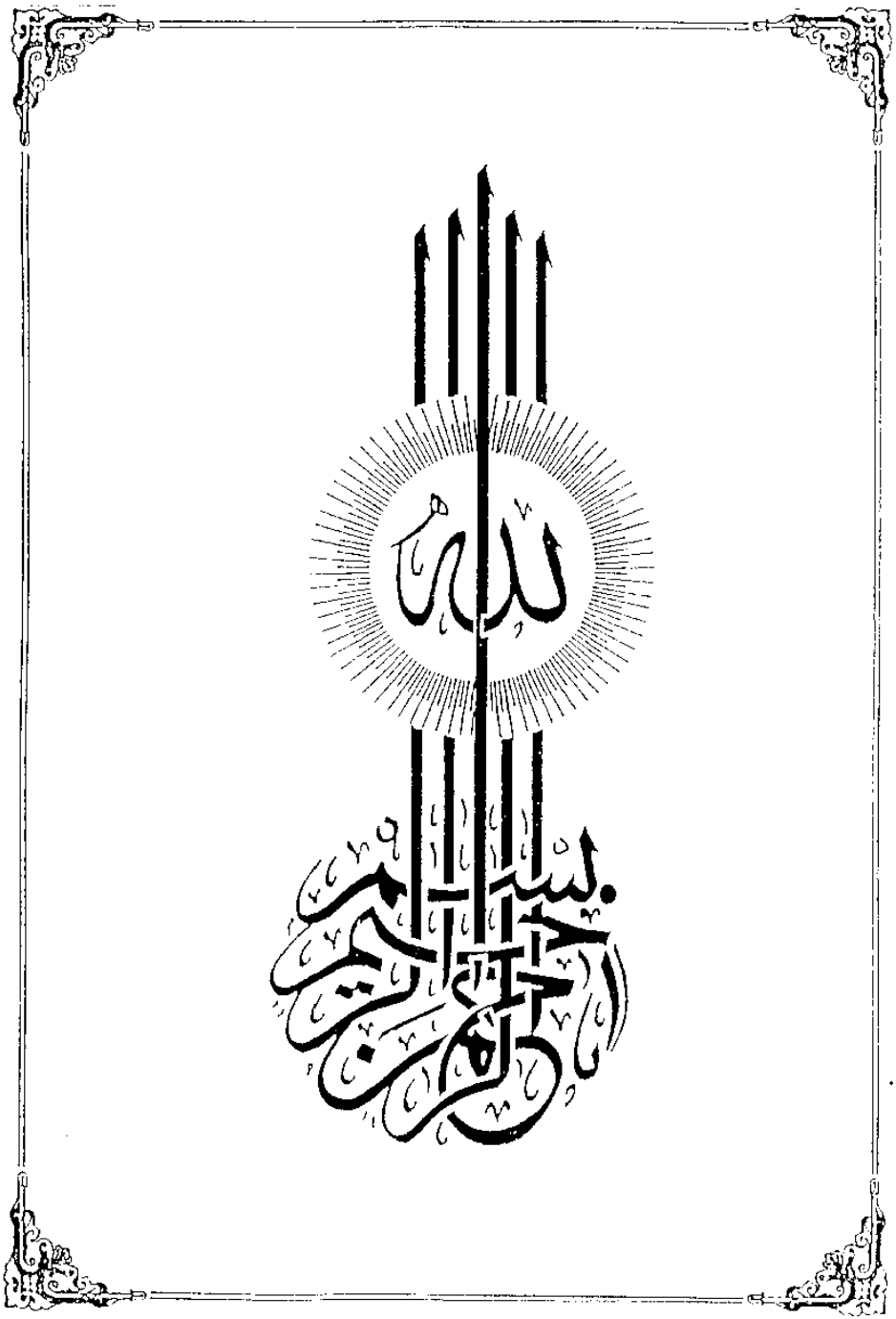

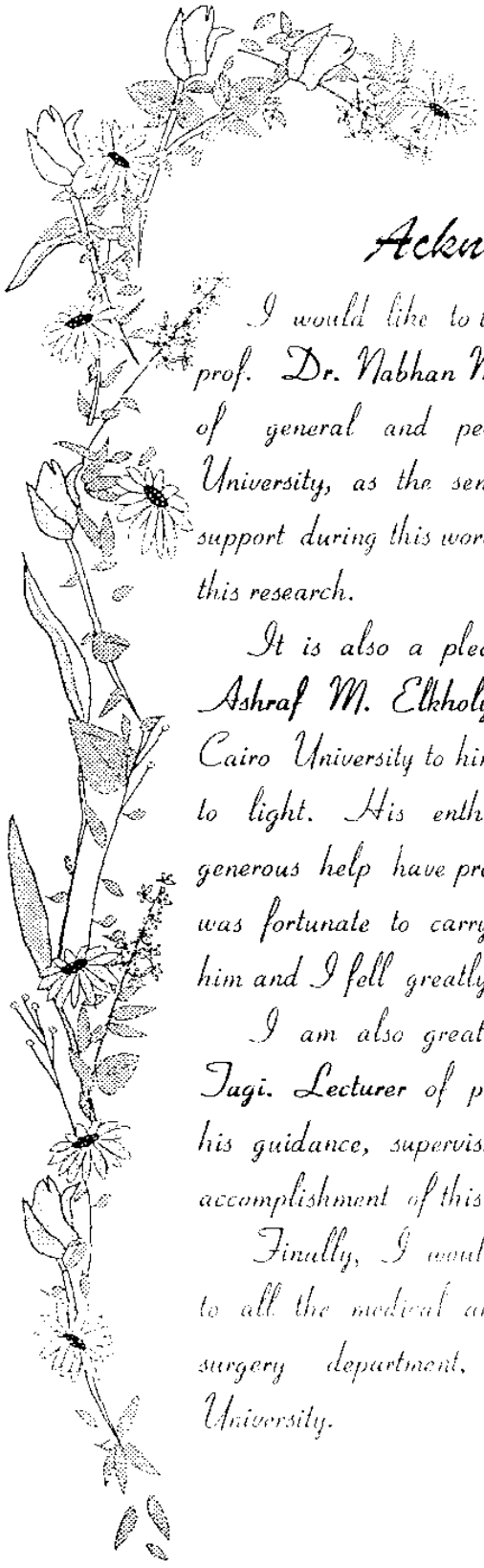

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Introduction

Introduction and Aim of the Work

Rectal prolapse (RP) is the condition in which part or all of the rectum protrudes through the anal orifice. This is one of the most common lesions of the rectum in infants and children ***(Chris et al., 1960).***

It is usually seen at less than 3 years of age with males and females having equal incidence ***(Narsanagi., 1973).*** The prolapse is seen after defecation, with crying or straining and usually reduces spontaneously. 22% of children with cystic fibrosis may develop this condition. Parasitic infestation, dysentery, and whooping cough may also predispose to it ***(Stern et al., 1982).*** RP is prone to various complications, viz., superficial infection and ulceration of the exposed mucosa, as well as intermittent bleeding with subsequent anaemia. Moreover in long standing cases proctitis may develop in addition to weakness of the external sphincter that may compromise the continence mechanism ***(Jachman., 1949).***

RP in children is often a self-limiting disorder that regresses spontaneously by regulation of diet and defecation habits. Total cure

is usual with increase of age as normal growth corrects the predsposing factors. However in severe and recurring cases for whom conservative treatment failed, surgical interventionn is necessary ***(Marc et al 1993).***

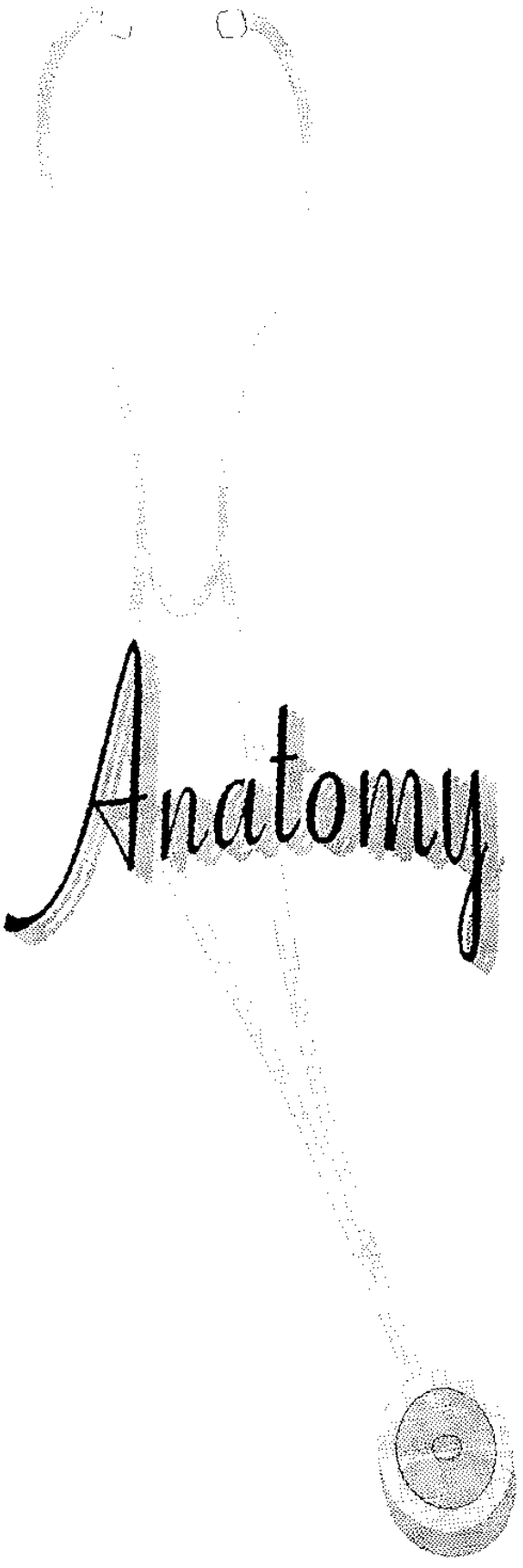
The many designed operations to correct RP in children (more than 40), indicates that the pathogenesis of this disorder is not fully understood ***(Marc et al 1993).*** In addition, considerable confusion exists relative to the wide variety and complexities of these procedures and the specific prolapse situations they were designed to treat. This confusion may lead to the inappropriate selection of a given procedure and results in a suboptimal outcome ***(Chwal et al 1990).*** It is always agreed that prolapse in children begins as pure mucosal prolopse and proceeds to the full thickness type. The aim of surgery is to create fixation of the rectal wall to the perirectal tissues in its elevated postion. This can be achieved in several techniques. Although simple operations are the rule rather than sophosticated ones, however in severe and recurrent cases they may be resorted to ***(Marc et al., 1993).***

Each of these techniques has its own disadvantages and recurrence rate, it is obvious that there are no-clear-cut indication for each procedure and the personal experience of the surgeon may be of major importance ***(Marc et al., 1993).***

* The Aim of the work:

The aim of this work is to study 60 cases of RP. These 60 cases are resistant to conservative measures.

They presented to the outpatient clinic of the pediatric surgery departement, new children hospital, Cairo University. This work is done during one year from september 1995 to September 1996. The purpose of this work is to assess, discuss and analyze the results of different modalities for correction of difficult cases of R.P. the 3 different modalities are chosen in this work to treat resistant cases of RP. Are: Modified Thiersch's operation, para and retrorectal injection of 30% hypertonic saline and parks' operation. The results are compared in a trial to find out a resonable approach or special regimens for management of R.P. among Egyptian children.



Anatomy

Chapter (I)...

Surgical Anatomy

Developmental Study:

Development of the cloaca:

At the caudal end of the embryo, the hindgut and the allantois (a diverticulum from the endoderm of the yolk sac) meet in a common cavity, the cloaca, bounded distally by the cloacal membrane (Fig.1A). from the dorsal wall of the allantois, the urorectal septum grows downwards to meet the cloacal membrane, so dividing the cloaca and membrane into two (Fig. 1B): at the front, the urogenital sinus and urogenital membrane, and at the back the anorectal canal and the anal membrane, which lies in a small ectodermal depression, the proctodeum. This dorsal part of the sinus becomes the rectum and anal canal ***(Last's 1994).***

The anal membrane breaks down, at a site represented by the pectinate line in the anal canal; the anal valves are said to indicate the remains of the membrane. The part of the anal canal continous with rectum above the pectinate line is endodermal, and the part below which is derived from the proctodeum is ectodermal, hence the

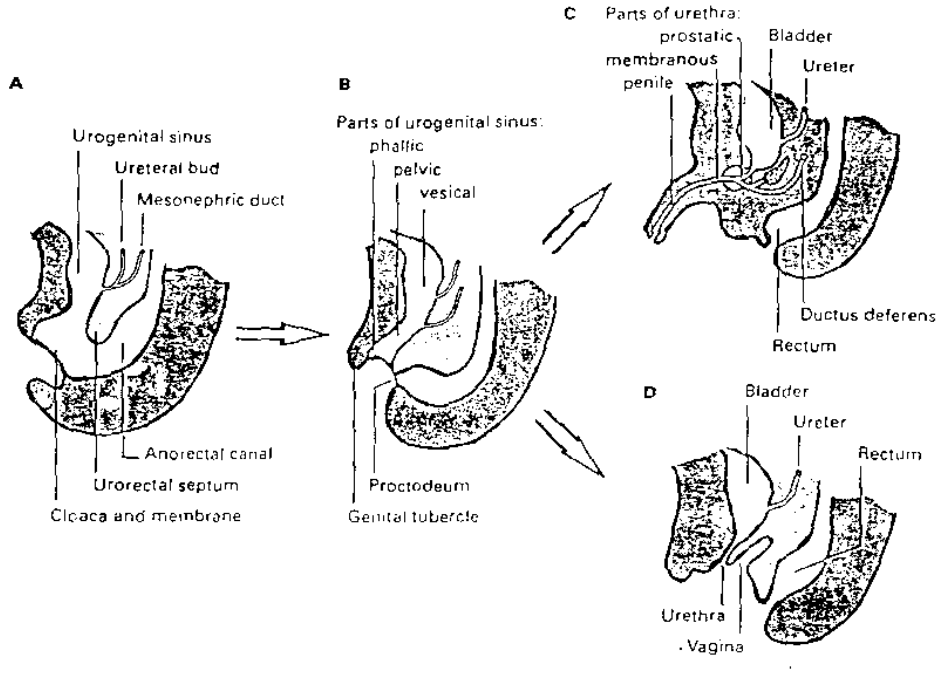


Fig. 1: Development of the cloaca. A The urorectal septum grows down to divide the cloaca into the urogenital sinus and the anorectal canal. B the uppermost (Vesicourethral) part of the sinus becomes the bladder and the proximal part of the prostatic urethra, with the pelvic and phallic parts distally. C in the male the pelvic part becomes the prostatic urethra distal to the opening of the ejaculatory ducts, and the phallic part becomes the dorsal part of the penile urethra.D. In the female the bldder and urehra are from the vesicourethral part of the sinus.

difference in the blood and nerve supplies and lymph drainage of the upper and lower parts of the anal canal ***(Last's 1994).***

* *Anatomy of the child:*

The proportions of the newborn child differ markedly from the form of the adult. Some of its organs and structures are well developed and even of full adult size (e.g. the internal ear) while others have yet to develop (e.g. corticospinal tracts to become myelinated, teeth to erupt, secondary sex characters to appear). In comparison with the adult the neonates is much more fully developed at its head end than at its tail end. The large head and massive shoulders stand out in marked contrast to the smallish abdomen and poorly developed buttocks and lower limbs ***(Last's 1994).***

The abdomen is not prominent at birth but becomes gradually more and more so. The 'pot-belly"of the young child is due mainly to the large liver and the small pelvis; the pelvic organs lie in the abdominal cavity. In later childhood the pelvic organs and much of the intestinal tract sink into the developing pelvic cavity and the rate of growth of the abdominal wall outpaces that of the liver. In this way the disposition of the viscera and the contour of the abdominal wall reach the adult proportions, and the bulging belly flattens. ***(Last's 1994).*** Also in the newborn the sacrum is straight, the ilia are flat and don't develop their normal concavity until the child grows older. The

rectosigmoid and rectum form a straight line rather than the curved configuration present in an older child. The valves of Houston are abscent or poorly developed. Fusion of the rectal wall to the aponeurosis of Denonvilliers is incomplete and the lateral ligaments of the rectum are poorly developed in children ***(Chris et al 1960).***

* *Anatomy of the Rectum:*

The recto-sigmoid junction may be marked by a distinct flexture as the terminal sigmoid colon which is directed backwards and upwards, turns sharply donwards to follow the curve of the sacrum and becomes the rectum. This angulation is abscent if the sigmoid colon is too short. No sphincter exists at the rectosigmoid junction. The rectum is thus starts at the third sacral piece and ends where its muscle coats are replaced by the sphincters of the anal canal. The rectal length is about 12-15 cm ***(Goligher 1984).***

The rectum ends 2-3 cm infront and below the tip of coccyx by turning abruptly downwards and backwards to pass through the levator muscles ***(Goligher 1984).***

The intra-peritoneal part of the rectum has a diameter of 4 cm as that of the sigmoid, but its lower part is dilated and called the ampulla of the rectum. The rectum has no sacculations, no appendices epiploicae or a distinct mesentery while taeniae coli bend