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**COMPARATIVE STUDY OF DIFFERENT SURGICAL
PROCEDURES FOR CORRECTION OF ANTERIOR
HYPOSPADIAS**

**THESIS SUBMITTED FOR PARTIAL FULFILLMENT OF
M.D. DEGREE OF GENERAL SURGERY**

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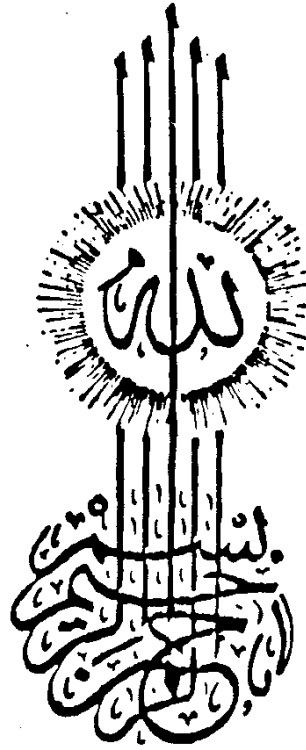
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وَقُلْ اَعْمَلُوا قَسِيْرَ الَّذِي اَنْتُمْ وَّرَسُوْلُهُ وَالْمُؤْمِنُوْنَ
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TO MY FAMILY

INTRODUCTION

Hypospadias is one of the most common congenital problems of pediatric surgery.

The effects of meatal dystopia include psychological upset specially at school age, and sexual consequences that are called impotentia generandi and improper coitus.

These sequelae lead to much troubles as regards to ventral defection of the stream of urine and painful erection due to ventral curvature of penis which is caused by chordee, usually accompanying this defect.

The incidence of hypospadias, in which particular attention was made to minor degrees of this anomaly is 1 in 125 live male births (Chung 1975).

Anterior hypospadias is commoner than posterior and comprising about 80% of the total hypospadias.

AIM OF THE WORK:

The study will include comparison of the different surgical procedures used in management of anterior

hypospadias and postoperative follow-up of patients, and discussion of the complications and their management.

CONTENTS:

(A) REVIEW OF LITERATURE

- INTRODUCTION .
- EMBRYOLOGY .
- ANATOMY .
- GENETICS AND INCIDENCE .
- CLASSIFICATION .
- ASSOCIATED ANOMALIES AND RELATION TO INTERSEX.
- DIAGNOSIS OF THE ELEMENTS OF ANOMALY.
- SURGICAL PROCEDURES AND COMMON COMPLICATIONS AFTER
CORRECTION OF ANTERIOR HYPOSPADIAS.

(B) MATERIALS AND METHODS

This study will include review of 60 cases of anterior hypospadias as regards:

- Clinical presentation.
- Elements of the anomaly and associated anomalies.
- Types of operations selected for repair:
 - 1) MAGPI (Meatal advancement and glanuloplasty incorporated).
 - 2) Mathieu (Perimeatal -Based Flap) .

3) Onlay Island Flap Urethral Extension (Duckett).

- Sequelae after correction and management of the complications.

(C) DISCUSSION .

(D) CONCLUSION.

(E) REFERENCES.

(F) ENGLISH SUMMARY .

(G) ARABIC SUMMARY.

REVIEW OF LITERATURE

HISTORY

The term "hypospadias" is derived from the Greek prefix hypo, meaning below, and the term spadon meaning rent or defect. (Donnelly, 1981).

This meatal dystopia results in psychological upset specially at school age, and sexual consequences that are called impotentia generandi and improper coitus. (Kelami, 1983).

100 to 200 A D, the Alexandrian surgeons, Heliodorus and Antyllus were given credit for first attempt correction of this anomaly by amputation of the distal curved portion (Devries 1986).

Dieffenbach in 1837 attempted unsuccessfully to repaire hypospadias . The first successful hypospadias repair was reported in 1842 by Mettauer, a pioneer surgeon from the backwoods of Virginia. Dr. Mettauer also suggested for the first time the correction of the chordee by the use of " subcutaneous incision in succession untill the organ is liberated". Three famous frensh surgeons , Duplay (1880), Ombredanne (1923), and Nove-Josserand (1919) made the first modern contributions to hypospadias repair. (Bachus, 1960).

The challenge of hypospadias reconstruction remains a fertile field for seeding innovative ideas. Over 200 procedures are published, so that a truly original contribution is rare. However, modifications and alterations are abundant. Experience is by far the best teacher, and a familiarity with what other have tried can only enhance one's armamentarium. (Duckett, 1981a).

The incidence of hypospadias including the minor degrees of this anomaly is 1 in 125 live male births .(Chung, 1975).

Anterior hypospadias is commoner than posterior and comprises about 80% of the total hypospadias. (Chung, 1975).

The differences between anterior hypospadias and posterior hypospadias are not only morphological but have practical significance. These two types of hypospadias differ as to operative procedure, complications and operative results and can not be compared with each other . Thus hypospadias is not a single entity . the majority of boys with hypospadias have meatus located from the tip of the glans to the midshaft . So this type of hypospadias was chosen to propose an operation with minimal complications and best result for considerable patient and parental satisfaction . (Abramovik, 1981).

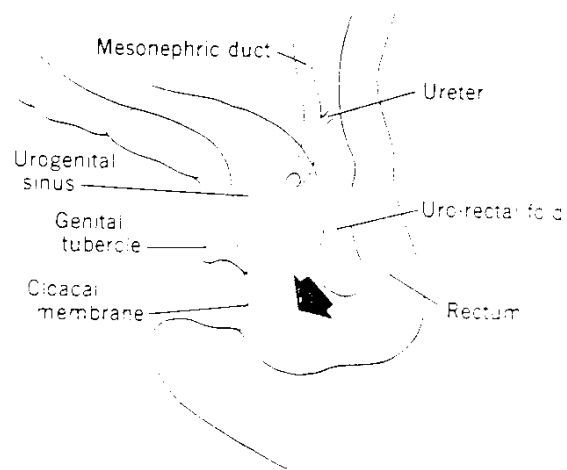
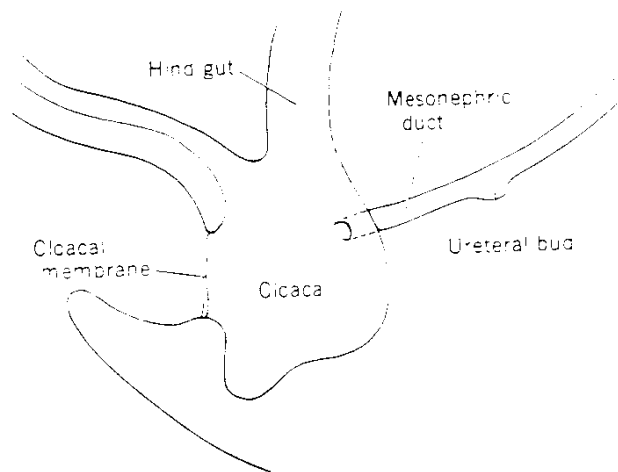
PATHOEMBRYOLOGY

During the 4th. week of gestation, the urorectal septum begins its descent. This wedge of mesenchyme advances towards the cloacal membrane, forming an anterior urogenital sinus and posterior rectum. [Fig. 1 , 2]

Fusion of the urorectal septum with the cloacal membrane, divides the latter into a posterior anal membrane and an anterior urogenital membrane.

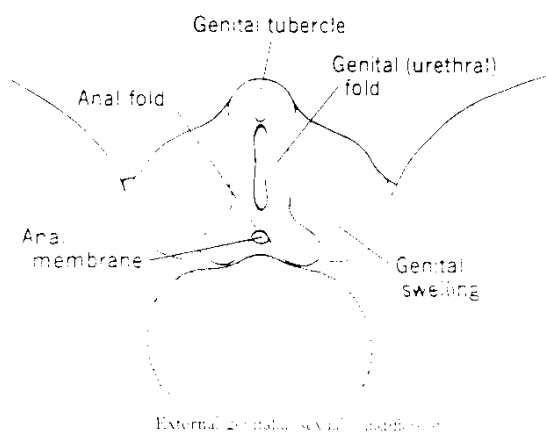
At about the 5th. week of fetal life three protuberances appear arround the urogenital membrane . The most cephalad is the genital tubercle determining the site of the phallus, the other two, the genital folds, between which lies the urethral groove. The genital (Labioscrotal) swellings are fused on either side of these folds. [Fig. 3]

As the phallus elongates, the urethral groove extends to the level of the corona. Gradually, the urethral folds coalesce in the midline from behind forwards, closing the urethra and forming the median raphe of the scrotum and penis. [Fig. 4]



[Fig. 1, 2]

DEVELOPMENT OF UROGENITAL SINUS



[Fig. 3]

EXTERNAL GENITALIA (SEXUALLY INDIFFERENT)