Surgical Realignment Of Penile Suspensory Ligament in Peno-Scrotal Hypospadias Has Better Cosmetic And Functional Outcomes.

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INTRODUCTION AND OBJECTIVES: Proximal hypospadias is a complex anatomical deformity of the male external genitalia. The Penile Suspensory Ligament (PSL) is an important structure, which defines the peno-scrotal orientation. Abnormal anatomy of PSL leads to an abnormal peno-scrotal orientation and penis shortening. The correction of this abnormal ligament forms the basis of better restoration of peno-scrotal anatomy. We tried to understand the distorted anatomy of the PSL in peno-scrotal Hypospadias and to assess the effect of its surgical realignment in complex proximal hypospadias.

METHODS: 17 patients of peno-scrotal Hypospadias, between the ages of 5 to 29 years (mean age 8.46 years) were studied from June 2013 to May 2017. 12 patients had no surgical intervention before and 5 were operated previously. All non-operated patients had significant chordee and 2 of the 5 operated patients had residual chordee. All patients had an over-riding bifid scrotum with shortening of the phallus. The surgical steps included: Penile degloving, scrotal exploration, identification of the abnormal attachments of the PSL, release of lesions and cord from the abnormally placed PSL, isolation of both PSL and midline realignment and repair of the ligaments with fixation to the penile shaft.

RESULTS: Penile Length increased by an average of 18.45% to that of the pre-op length in all patients. All patients had undivided round scrotum. All patients had correct orientation of penis and scrotum.

Favorable results:
1) Correction of Peno-scrotal transposition
2) Increased Penile length
3) Pendulous scrotum
4) Correction of Bifid scrotum
5) Correction of Peno-pubic angle during erection

CONCLUSIONS: The PSL has 2 parts. The suspensory ligament proper bridges the symphysis pubis and the tunica albuginea of the corpora cavernosa. The fundiform ligament consists of the dartos facial fibers extending from the fascia of the abdomen onto the penile shaft. Deeper, elaborate dissection in cases of complex peno-scrotal hypospadias shows abnormal anatomy of the penile suspensory ligaments. This is responsible for abnormal peno-scrotal orientation, buried penis, cleaved and plastered scrotum. Realignment of the PSL is essential for restoration of peno-scrotal anatomy and offers better cosmetic and functional results.

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NORMAL ANATOMY OF PSL

Penile Suspensory Ligament (PSL)

NORMAL ANATOMY

VARIATION IN PROXIMAL HYPOSPADIAS

SURGICAL RE-ALIGNMENT

FINAL RESULT POST REALIGNMENT

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