

## **Outcome of Snodgrass urethroplasty by modifying tubularization and dartos layer in Erbil**

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**Background and Objectives:** Hypospadias is defined as an abnormal ventral opening of the urethral meatus, with or without an abnormal ventral curvature of the penis (chordee). Snodgrass first described the tubularized, incised plate (TIP) urethroplasty for distal hypospadias repair in 1994. objectives of this study is to find out whether there is any difference in the outcome and fistula rate with the use of ventral versus dorsal dartos flap.

**Methods:** Between May 2009 and July 2014, tabularized incised plate urethroplasty was performed for correction of hypospadias (coronal to mid penile) at Rizgary Teaching Hospital and Raparin Pediatric hospital in Erbil for 112 patients with age groups ranging from 1-32 years. Exclusion criteria were proximal hypospadias, moderate to severe chordee and previous repair. Five patients were excluded from the study because of lack of adequate follow up, therefore; only the remaining 107 patients were included in the analysis. Data were analyzed using the statistical package for social science (SPSS) V. 19.

**Results:** In this series urethral fistula occurred in seven cases (6.5%). We found that the use of an additional reinforcing second layer for the tubularization has significant effect in decreasing the fistula formation with p-value of 0.05. The fistula rate is slightly lower with dorsal dartos flap (3/56, 5.4%) than ventral dartos flap (4/51, 7.8%), however; statistically insignificant with p-value of 0.603. We found high satisfaction of parents (96, 89.7%) and surgeons (89, 83.2%) with the final result.

**Conclusion:-** We believe that the urethral plate, when dissected, should be thick enough to allow for tubularization in two layers, namely the first subepithelial together with a second reinforcing one. Both dorsal and ventral dartos flaps are effective in preventing urethral fistula formation.

**Key words:** Hypospadias, dartos flap, fistula