Fistula Prevention by Longitudinal Dorsal Dartos Flap Covering in Proximal Snodgrass Hypospadias Repair

Introduction and Objectives: The Snodgrass technique presents the procedure of choice for distal hypospadias repair. Fistula formation is the most common complication with various rates. We evaluated the importance of a urethral covering using long vascularized dorsal subcutaneous tissue for fistula prevention for correction of proximal hypospadias.
Materials and Methods: Our study included 19 patients, aged 9 months to 11 years, who underwent proximal hypospadias repair from April 2008 through October 2011. Chordee was present in all patients and was corrected by dorsal plication. All patients underwent standard tubularized incised plate urethroplasty, which was followed by reconstruction of new surrounding urethral tissue. A very long, longitudinal dartos flap was harvested from the dorsal penile skin and transposed to the ventral side by the buttonhole maneuver. The flap was sutured to the glans and the corpora cavernosa to completely cover the neourethra with well-vascularized subcutaneous tissue. Penile body was covered using remaining penile skin.
Results: Mean follow-up was 25 (6–48) months. A successful result without fistula was achieved in 16 patients. Two fistulas healed spontaneously, while the remaining one was corrected by minor revision. There was no urethral stenosis.
Conclusions: Urethral covering with long dorsal well-vascularized dartos flap represents a good choice for fistula prevention. Redundancy of the flap and its excellent vascularization are promising for good outcome in proximal hypospadias repair using Snodgrass technique.