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Correction of congenital penoscrotal webbing in children: A retrospective review of three surgical techniques

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Summary

Introduction
Congenital penoscrotal webbing (PSW) is a condition that leads to penile shortening and is a common cause of delayed circumcision. While various techniques for PSW repair have been described, no comparative studies are currently available.

Objective
The goal of this study was to validate and critique three commonly utilized techniques for PSW repair.

Subjects and methods
A retrospective chart review was performed on all patients who underwent repair for PSW, with or without concomitant surgical procedure, by a single surgeon (MKH) over a 7-year period. Inclusion criteria were: aged <5 years, diagnosis of PSW, documented surgical approach undertaken to correct the PSW, and follow-up for a minimum of 6 months. A total of 196 patients aged 6 months–3.4 years (average 7.8 months) were included, and underwent three different types of procedure: Heineke-Mikulicz (HM) scrotoplasty, VY scrotoplasty or Z scrotoplasty.

Results
Out of 196 patients, 10 (6.7%) had complications, with four (2.7%) requiring surgical revision or correction. Two patients had excision of 'dog-ear' skin tags, one required excision of a suture tract, and the fourth required revision of skin contraction after HM repair with Z scrotoplasty.

Discussion
Congenital penoscrotal webbing is a common condition that often requires pediatric urology consultation. Although it is felt that the severity of the defect may not impact on the operative technique for repair of PSW, data comparing these techniques is lacking. This single-surgeon series highlighted that amongst the patients who underwent one of the three described techniques (HM, VY or Z scrotoplasty), there were no significant postoperative differences in complications or parent satisfaction. Although the ease of the HM repair for minor webbing is acknowledged, Z scrotoplasty is the authors' preference for repair given its ability to address the most severe webbing.

Conclusions
In this comparison of three surgical techniques for the correction of PSW, it was demonstrated that each choice is safe, with no option showing a significant difference in complication rate. Surgeon preference should therefore weigh heavily when choosing the surgical approach for PSW repair.

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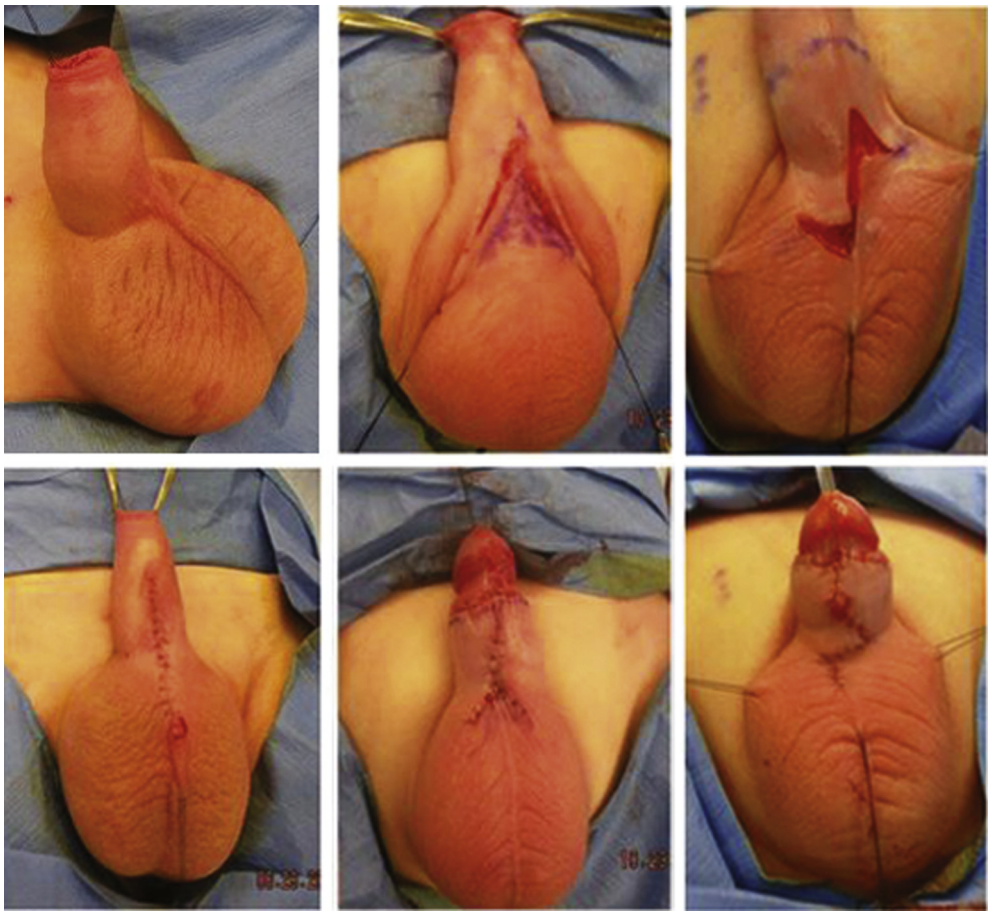

Figure Before and after planned surgical technique. Depicted in sequential order is: a Heineke-Mikulicz, V—Y and Z-plasty technique for repair of penoscrotal webbing.

Introduction

Congenital penoscrotal webbing (PSW) is an anomaly of the penoscrotal skin junction developing from the presence of a skin fold tethering the ventral penile shaft to the scrotum, obscuring the proximal ventral penis [1]. Inadequate adherence of the dartos fascia to the penile shaft results in the absence of a penoscrotal angle and an abnormally short ventral shaft [2]. With isolated PSW, a characteristic appearance on neonatal genitalia exam prompts referral to a pediatric urologist; however, the webbing can be an element of a concealed or inconspicuous penis, which encompasses a wider array of congenital deformities. Concomitant penoscrotal anomalies may also exist, such as chordee, which can further shorten the ventral penis. Therefore, to avoid the possibility of a trapped penis, obstetricians and pediatricians should avoid neonatal clamp circumcision on patients with PSW [3].

As congenital penoscrotal webbing may be asymptomatic in infancy, its true incidence is likely underreported [4]. Furthermore, the condition may be esthetically unacceptable to the parents or to the patient later in life, and may result in a negative social or psychological impact on the patient if not corrected. In 2003, Herndon et al. showed that the long-term outcomes of patients who have undergone surgical correction of PSW in infancy are superior to those corrected in adolescence [5]; they recommend that PSW be corrected accordingly. Multiple methods have been described to correct PSW [4,6—8] and recent attempts have been made to provide simplified techniques for PSW repair [9—12]. No prospective trial is currently available for comparison of the techniques; neither has there been a report of a retrospective review. In the present study, 196 patients who underwent repair for PSW under a single surgeon over a 7-year period were reviewed with the aim of comparing complications and outcomes.

Materials and methods

The charts of all patients who underwent operative management of PSW from January 2008 to December 2014 were reviewed. Charts were searched for pre-operative assessment with diagnosis of PSW. Inclusion criteria were: males <5 years old whose charts sufficiently documented the surgical approach and follow-up of a minimum of 6 months. A total of 219 patients had initial diagnosis of PSW; 196 who had postoperative follow-up data for a minimum of 6 months were included in the present review.