



# Penoscrotal Web and its Repair in Children

## Çocuklarda Penoskrotal Perde ve Onarımı

Okan Alkış,<sup>1</sup> Bekir Aras,<sup>1</sup> Mehmet Sevim,<sup>1</sup> İbrahim Güven Kartal,<sup>1</sup>  
 Oğuzhan Yusuf Sönmez,<sup>1</sup> Fatih Uruç<sup>2</sup>

### ABSTRACT

**Objectives:** Penoscrotal web is the extension of skin from scrotum skin to ventral skin of the penis that causes malformation of the penis and may lead to problems during sexual intercourse in adulthood. V-Y plasty, double Z plasty, V plasty, and double V plasty techniques have been described for penoscrotal web repair. In our study, we aimed to share the outcomes of patients who underwent penoscrotal web repair with the double V plasty technique.

**Methods:** The data of 30 patients who were observed to have penoscrotal web during the pre-circumcision examination in our clinic and underwent web repair along with circumcision were retrospectively analyzed. After all patients underwent web repair using the double V technique, circumcision was performed with the sleeve technique. The cosmetic outcomes of the patients who were checked in the post-operative 1<sup>st</sup> month were evaluated.

**Results:** Thirty patients underwent penoscrotal web repair with double V plasty together with circumcision with the sleeve technique in our clinic between 2017 and 2019. The average age of the patients was 3.70±3.68. The patients who were operated under general anesthesia were discharged on the same day without any problem. The cosmetic outcomes of the patients who were called for control 1 month after the operation were evaluated. It was observed that the webs of all patients disappeared. It was determined that the circumcision incision and wounds in the penoscrotal region were healed smoothly.

**Conclusion:** In the literature, many different techniques have been described on penoscrotal web repair. We also successfully apply the double V plasty technique in our clinic. We consider that our results related to penoscrotal web repair, on which there are few studies in the literature, will contribute to the literature by revealing them.

**Keywords:** Circumcision; double V plasty; male; penile diseases; penoscrotal web.

### ÖZET

**Amaç:** Penoskrotal web peniste şekil bozukluğuna neden olan ve erişkinlikte cinsel ilişki sırasında sorunlara yol açabilen skrotum cildinden penis ventral derisine uzanan deri uzantısıdır. Penoskrotal web onarımı için V-Y plasti, ikili Z plasti, V plasti ve ikili V plasti teknikleri tanımlanmıştır. Biz de çalışmamızda ikili V plasti tekniği ile penoskrotal web onarımı yaptığımız hastaların sonuçlarını paylaşmayı amaçladık.

**Yöntem:** Kliniğimizde sünnet öncesi değerlendirme sırasında penoskrotal web saptanan ve sünnet ile beraber web onarımı yapılan 30 hastanın verileri retrospektif olarak incelendi. Tüm hastalara ikili V tekniği ile web onarımı yapıldıktan sonra sleeve tekniği ile sünnet yapıldı. Operasyondan 1 ay sonra kontrol edilen olguların kozmetik sonuçları değerlendirildi.

**Bulgular:** Kliniğimizde 2017–2019 arasında 30 hastaya sleeve tekniği ile sünnet ile beraber ikili V plasti ile penoskrotal web onarımı yapıldı. Hastaların yaş ortalaması 3,70±3,68 yıl idi. Genel anestezi altında opere edilen olgular aynı gün sorunsuz olarak taburcu edildi. Operasyondan 1 ay sonra kontrole çağrılan hastaların kozmetik sonuçları değerlendirildi. Tüm hastaların weblerinin ortadan kalktığı görüldü. Sirkumsizyon insizyonunun ve penoskrotal bölgedeki yara yerlerinin sorunsuz iyileştiği tespit edildi.

**Sonuç:** Penoskrotal web onarımında literatürde birçok farklı teknikler tarif edilmiştir. Biz de kliniğimizde ikili V plasti tekniğini başarı ile uygulamaktayız. Literatürde az sayıda çalışma bulunan penoskrotal web onarımı sonuçlarımızı ortaya koyarak literatüre katkı sağlayacağını düşünmekteyiz.

**Anahtar sözcükler:** Sünnet; ikili V plasti; erkek; penis hastalıkları.

<sup>1</sup>Department of Urology,  
Kütahya Health Science  
University Faculty of  
Medicine, Kütahya, Turkey

<sup>2</sup>Department of Urology,  
Bahçeşehir University Faculty  
of Medicine, İstanbul, Turkey

### Cite this article as:

Alkış O, Aras B, Sevim M,  
Kartal İG, Sönmez OY, Uruç  
F. Penoscrotal Web and its  
Repair in Children. Bosphorus  
Med J 2022;9(1):36–39.

Received: 03.03.2021

Accepted: 08.05.2021

### Correspondence:

Dr. Okan Alkış, Kütahya Sağlık  
Bilimleri Üniversitesi Tıp  
Fakültesi, Üroloji Anabilim  
Dalı, Kütahya, Turkey

Phone:

+90 532 648 72 97

e-mail:

okanalks@hotmail.com

OPEN ACCESS



This work is licensed under a  
Creative Commons Attribution-  
NonCommercial 4.0 International  
License.

The fact that man perceives his genitals has significant effects on self-esteem and sexual identity. In many cultures, penis length is associated with masculinity and virility. Therefore, penis length and anomalies of the penis are of great importance. One of the abnormalities causing shortening of the penis length and malformation of the penis is the penoscrotal web (PSW) (Fig. 1). PSW is the extension of the skin that adheres from the scrotum to the ventral surface of the penile shaft.<sup>[1]</sup> Maizels et al.<sup>[2]</sup> described PSW as the adjacency of the penis shaft with the scrotum skin which conceals the silhouette of the ventral penis shaft. This abnormality leads to problems during sexual intercourse in adulthood by causing loss of penoscrotal angle. While PSW can be congenital, it may also occur as a result of excessive resection of the ventral skin of the penis during circumcision.

In the literature, different techniques were demonstrated in PSW repair. Alter demonstrated the double Z plasty technique.<sup>[3]</sup> In this technique, the line is sutured flat longitudinally after two consecutive Z-shaped incisions in the penoscrotal junction. Chang et al.<sup>[4]</sup> demonstrated the V-Y plasty technique. In this technique, one or two V-shaped incisions were made to the penoscrotal junction and it was sutured in Y-shape. McLeod et al.<sup>[5]</sup> modified the V-Y plasty technique and introduced the double V technique. We also aimed to reveal the outcomes of web repair with double V plasty technique of 30 patients who were observed to have PSW before circumcision in our clinic.

## Methods

In our study, after receiving the approval of Kütahya Health Sciences Ethics Committee on February 25, 2020 with 2020/04-09 decision number, the files of 30 patients who were reconstructed with V plasty due to PSW during circumcision between January 2017 and December 2019 were retrospectively reviewed. Our study was conducted in accordance with the Declaration of Helsinki Principles. Patients' demographic data, pre-operative findings, operation outcomes, and complications were examined. During pre-operative evaluation before circumcision, those who were found to have PSW in the physical examination were informed and web repair was recommended. The patients who accepted web repair and were operated were included in the study. The patients with scrotum skin on the penoscrotal junction extending to the shaft of the penis, reduced penoscrotal angle, and limited movement to the dorsal of the penis were considered PSW. The patients with hypospa-



Figure 1. Penoscrotal web.

dias, chordee, and other abnormalities in the skin of the penis during pre-operative evaluation were not included in the study. All patients underwent first PSW repair and then circumcision under general anesthesia. In all patients, circumcision was performed with the sleeve technique. After circumcision, a V-incision was performed on the penoscrotal junction with an angle of approximately 60°, with the length of arms varying according to the length of the penis. Then, another incision was performed in the form of a mirror image of the incision. The incision line formed along the median raphe line was vertically sutured with 5-0 absorbable synthetic polyglactin suture. The patients were checked in the post-operative 1<sup>st</sup> month. Post-operative cosmetic outcomes of the patients were evaluated subjectively. The angle of the penoscrotal junction, whether there was any web appearance, the presence of scar at the incision line, and the wound site were evaluated.

## Results

Thirty patients who were observed to have PSW during the pre-circumcision examination between January 2017 and December 2019 underwent circumcision with the sleeve technique and then PSW repair with double V plasty (Fig. 2).



Figure 2. Incision of double V plasty.

The average age of the patients was found to be  $3.70 \pm 3.68$  years. No intra-operative complication was observed in any of the patients whose operations were performed under general anesthesia. All patients were discharged postoperatively on the same day without problems. No complication was observed in patients in the post-operative period. The cosmetic outcomes of the patients who were called for control in the post-operative 1<sup>st</sup> month were evaluated. No cosmetic problem was observed in the circumcision areas of all pa-

tients. Furthermore, it was observed that their PSWs disappeared. It was observed that the wounds in the penoscrotal region healed without scar and without adhesion.

## Discussion

PSW is a serious penis abnormality that may lead to severe problems in sexual life in adulthood. In the studies conducted in the literature, its prevalence was found to be 4%.<sup>[6]</sup> Congenitally, common PSW can also be observed as a result of excessive excision of the ventral skin after circumcision. Cosmetic disorders such as web are frequently encountered especially after circumcision performed by incompetent people other than physicians.<sup>[7,8]</sup> Mayer et al.<sup>[1]</sup> found that iatrogenic PSW occurred by 17.5% in cases with newborn circumcision. In cases with PSW, the incision may also extend to the PSW line by excising the excess of prepuce, which also makes PSW repair difficult and may lead to poor cosmetic outcomes. Therefore, we administer PSW repair before circumcision (Fig. 3a).

PSW is not very noticeable by families and is usually detected during pre-circumcision physical examination, which also once again reveals the necessity of performing circumcision by physicians and the importance of physical examination before circumcision. During pre-circumcision physical examination, testicular examination is mainly performed for more undescended testes and urethral mea is examined for hypospadias. However, PSW and other less common chordee and penis skin abnormalities must also be evaluated.

In the literature, many surgical techniques have been described for PSW correction.<sup>[3-5]</sup> Z plasty, V-Y plasty, and double V plasty are the most frequently used techniques.

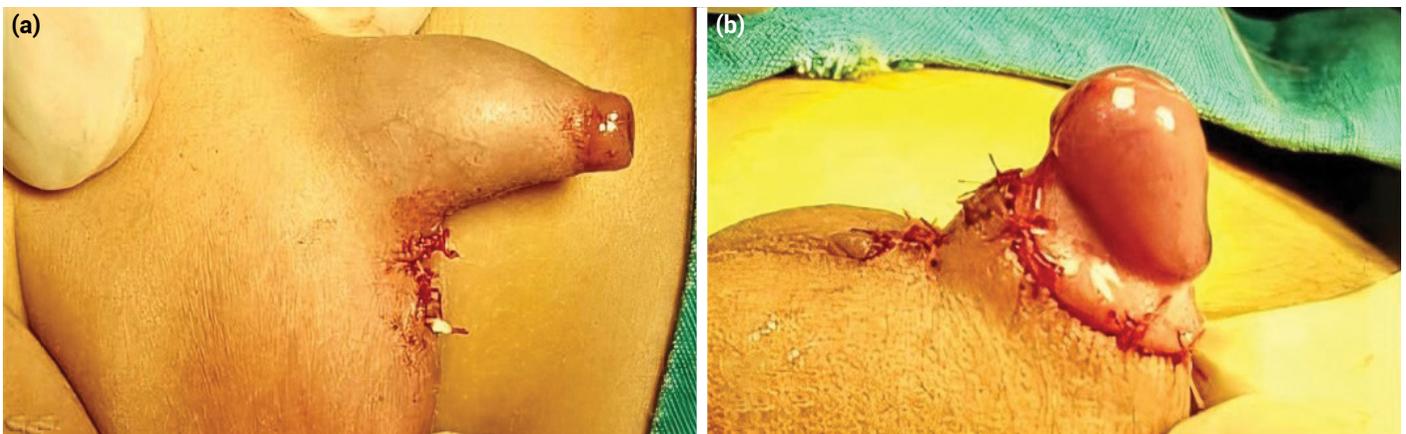


Figure 3. (a) Double V plasty was performed before circumcision. (b) After double V plasty and circumcision.



Figure 4. Image of post-operative 1<sup>st</sup> month.

McLeod and Alpert, who revealed the double V plasty technique, suggested that the V-Y plasty was difficult and that Y-shaped suturation may lead to cosmetic disorders. They indicated that their own technique V plasty was simple technique to administer. Furthermore, they stated that the scar appearance at the incision line would be hidden by remaining in the median raphe and thus the cosmetic appearance would be better. In our study, we also used the double V plasty technique suggested by McLeod and Alpert. With this technique, the narrowing in the penoscrotal angle, which is the main objective in web repair, is eliminated, the length of the penis shaft is increased, and the movement restriction toward the dorsal of the penis is corrected (Fig. 3b). In the limited number of studies carried out, all the techniques described in the literature could not be demonstrated to be superior to each other.<sup>[5,9]</sup> Therefore, there is no surgical technique recommended as the gold standard in PSW repair. In our study, successful cosmetic outcomes were achieved in all patients. No complication was observed in any of our patients after the operation (Fig. 4).

There are few studies on PSW repair in the literature. In general, new techniques were demonstrated in those studies. In our study, we demonstrated the outcomes of 30 cases, in which, we performed web repair with the double V plasty technique. Our study also had some limitations. These limitations are the fact that our study was retrospective, lack of pre-operative and post-operative penoscrotal angle measurements in evaluating the outcomes of the operation, and the subjective evaluation of cosmetic outcomes due to the

absence of penis shaft length measurements. We consider that there is a need for randomized controlled prospective studies to be conducted with larger patient groups, in which, different techniques will be compared.

## Conclusion

We successfully apply web repair with the double V plasty technique in our clinic. However, we consider that all the other techniques described can also be easily applied. There are few studies on this subject in the literature. Therefore, we also consider that our results related to PSW repair will contribute to the literature by revealing them.

## Disclosures

**Ethics Committee Approval:** The Kütahya Health Science University Clinical Research Ethics Committee granted approval for this study (date: 25.02.2020, number: 2020/04-09).

**Peer-review:** Externally peer-reviewed.

**Conflict of Interest:** None declared.

**Authorship Contributions:** Concept – O.A., B.A., M.S., İ.G.K., O.Y.S., F.U.; Design – O.A., B.A., M.S., İ.G.K., O.Y.S., F.U.; Supervision – O.A., B.A., M.S., İ.G.K., O.Y.S., F.U.; Fundings – O.A.; Materials – O.A., B.A., M.S.; Data collection and/or processing – O.A., İ.G.K., O.Y.S., F.U.; Analysis and/or interpretation – O.A., İ.G.K., O.Y.S., F.U.; Literature search – O.A., B.A., M.S., İ.G.K., O.Y.S., F.U.; Writing – O.A.; Critical review – O.A., B.A., M.S., İ.G.K., O.Y.S., F.U.

## References

1. Mayer E, Caruso DJ, Ankem M, Fisher MC, Cummings KB, Barone JG. Anatomic variants associated with newborn circumcision complications. *Can J Urol* 2003;10:2013–6.
2. Maizels M, Meade P, Rosoklija I, Mitchell M, Liu D. Outcome of circumcision for newborns with penoscrotal web: Oblique skin incision followed by penis shaft skin physical therapy shows success. *J Pediatr Urol* 2019;15:404.e1–404.e8.
3. Alter GJ. Correction of penoscrotal web. *J Sex Med* 2007;4:844–7.
4. Chang SJ, Liu SP, Hsieh JT. Correcting penoscrotal web with the V-Y advancement technique. *J Sex Med* 2008;5:249–50.
5. McLeod DJ, Alpert SA. Double-V scrotoplasty for repair of congenital penoscrotal webbing: A hidden scar technique. *J Pediatr Urol* 2014;10:810–4.
6. El-Koutby M, Mohamed Amin el G. Webbed penis: A new classification. *J Indian Assoc Pediatr Surg* 2010;15:50–2.
7. Ozdemir E. Significantly increased complication risks with mass circumcisions. *Br J Urol* 1997;80:136–9.
8. Brisson PA, Patel HI, Feins NR. Revision of circumcision in children: Report of 56 cases. *J Pediatr Surg* 2002;37:1343–6.
9. Li Y, Zhu X, Feng D, Gong J, Sun G, Zhang X, et al. A modified scrotoplasty for treating severe penoscrotal webbing in children. *Front Pediatr* 2020;8:551.