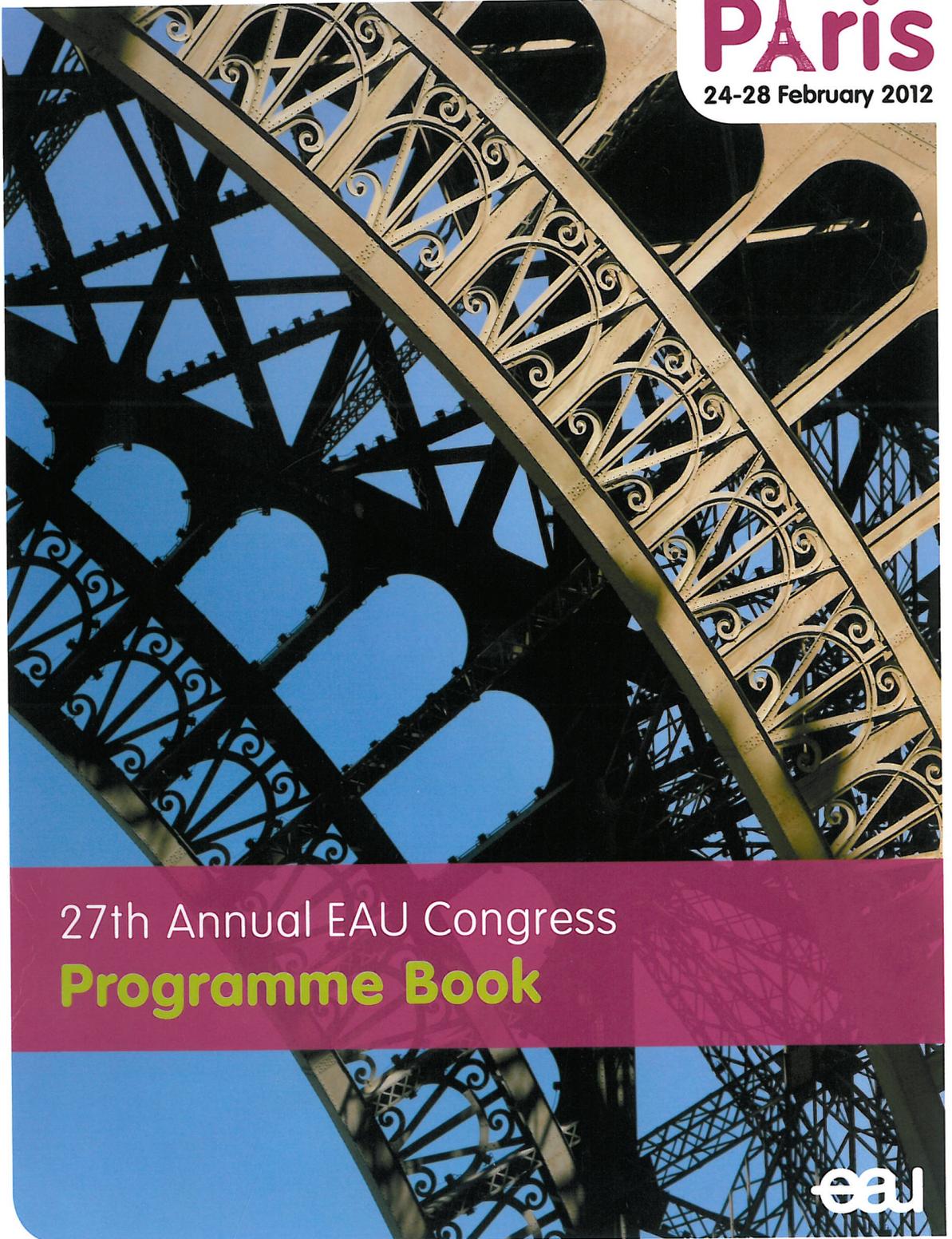


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INTRODUCTION & OBJECTIVES: After operations by Essed-Schroeder method many recurrences appear (10 – 15%). After operations by Nesbit or Yachia methods recurrence rate is lower but invasiveness is greater because corpora cavernosa are opened. In 2006 authors proposed less invasive procedure in which corpora cavernosa are not opened, only elliptic fragment of external (longitudinal) layer of tunica albuginea is excised (internal - transverse - layer is preserved) and both layers of the tunica are then sutured over invaginated internal layer. Stratified structure of tunica albuginea was used by the authors for shortening the elongated surface of penis and for penile straightening.

MATERIAL & METHODS: From 2006 to 2011 authors operated on 85 adult men with congenital penile curvature. Downward penile shaft and glans curvature was detected in 47 patients, lateral penile curvature in 28 patients, upward penile shaft and glans curvature in 10 patients. Skin and tunica dartos were incised longitudinally on convex surface of curvature. In downward curvature dorsal neuro-vascular bundles were separated from the tunica albuginea and on dorsal penile surface elliptic fragments of external layer of tunica albuginea were excised. Tunica albuginea was sutured with single absorbable sutures which went through both layers of tunica approximating the edges of its external layer and invaginating internal layer of tunica. In all patients straightening of penis was always checked by artificial erection. If curvature was still present next excisions of elliptic fragments of external layer of tunica and their suturing were done until penis was straight. In upward curvatures excisions were done on lower surface of penis on both sides of urethra. In lateral penile curvatures convex penile surface was shortened using above mentioned method. Antiandrogens were given orally 3 days before and 14 days after the operation.

RESULTS: In all patients penis was straightened during operation. Follow-up examinations which were done from 6 months to 5 years (average 3,5 years) after operation showed that in 83 patients penis was straight and in 2 recurrence (2,3%) of 15 and 20 degree (respectively) curvature was detected, in one of them reoperation was done. Disorders of superficial sensation on the glans, erectile dysfunction or disturbances of micturition were not detected in any patient.

CONCLUSIONS: 1. Excision of elliptic fragment of external layer of tunica albuginea with subsequent invagination of internal layer of the tunica is effective method in the treatment of congenital penile curvature giving good long-term results. 2. Operation is little invasive because cavernous bodies are not opened, which diminish potential risk of complications. 3. For performing proposed operation knowledge of stratified structure of tunica albuginea is necessary as well as a delicate and precise operative technique.

LATE RESULTS AFTER A NEW LITTLE-INVASIVE CORPOROPLASTY BASED ON STRATIFIED STRUCTURE OF TUNICA ALBUGINEA FOR THE TREATMENT OF CONGENITAL PENILE CURVATURE

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Introduction

After operations by Essted-Schroeder method many recurrences (10 – 15%) appear (1, 2, 3). After operations by Nesbit or Yachia methods recurrence rate is lower but invasiveness is greater because corpora cavernosa are opened (1, 3, 4). In 2006 authors proposed less invasive procedure in which corpora cavernosa are not opened, only elliptic fragment of external (longitudinal) layer of tunica albuginea is excised (internal - transverse - layer is preserved) and both layers of the tunica are then sutured over invaginated internal layer. Stratified structure of tunica albuginea was used by the authors for shortening the elongated surface of penis and for penile straightening (5, 6, 7).

Material

From 2006 to 2011 authors operated on 85 adult men with congenital penile curvature. Downward penile shaft and glans curvature was detected in 47 patients, lateral penile curvature in 28 patients, upward penile shaft and glans curvature in 10 patients.

Methods

Skin and tunica dartos are incised longitudinally on convex surface of curvature. In downward curvature dorsal neuro-vascular bundles are separated from the tunica albuginea. Artificial erection is done for assessment the angle of curvature and elliptic fragments of external layer of tunica albuginea are excised (internal layer of tunica is preserved). Tunica albuginea is sutured with single absorbable sutures which went through both layers of tunica approximating the edges of its external layer and invaginating internal layer of tunica. In all patients straightening of penis is always checked by artificial erection. If curvature was still present next excisions of elliptic fragments of external layer of tunica and suturing of their margins are done until penis is straight. In upward curvatures excisions are done on lower surface of penis on both sides of urethra. In lateral penile curvatures convex penile surface is shortened using above mentioned method. Antiandrogens are given orally 3 days before and 14 days after the operation.

Results

In all patients penis was straightened during operation. Follow-up examinations which were done from 6 months to 5 years (average 3,5 years) after operation showed that in 83 patients penis was straight and in 2 recurrence (2,3%) of 15 and 20 degree (respectively) curvature was detected, in one of them reoperation was done. Disorders of superficial sensation on the glans, erectile dysfunction or disturbances of micturition were not detected in any patient.

Conclusions

1. A new operation of congenital penile curvature which consists of excision of elliptic fragment of external layer of tunica albuginea with subsequent invagination of internal layer of tunica by the sutures gives good long-term results.
2. Operation is intratunical and little invasive because cavernous cavity is not opened. That is why no bleeding is observed which rule out the need for using a tourniquet during successive stages of penile straightening and diminish potential risk of complications.
3. For performing proposed operation knowledge of stratified structure of tunicaalbuginea is necessary as well as delicate and precise operative technique.

PHOTOGRAPHIC DOCUMENTATION



Photo 1: Intraoperative artificial erection: downward penile curvature.



Photo 2: Elliptic incision of the external (longitudinal) layer of tunica albuginea.

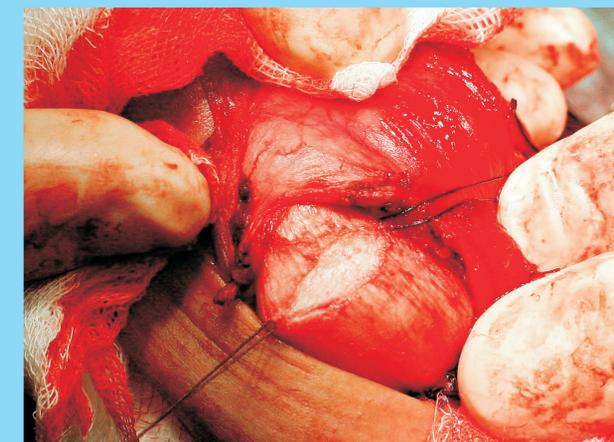


Photo 3: Excision of elliptic fragment of external layer of the tunica albuginea, internal (transversal) layer is preserved.

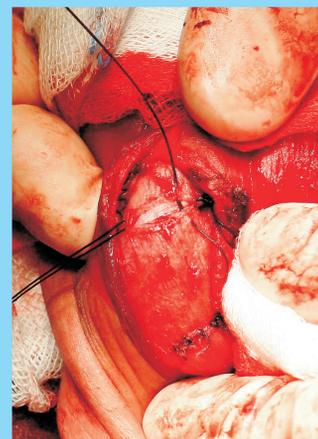


Photo 4: Margins of external layer of the tunica albuginea are sutured over invaginated internal layer of tunica.



Photo 5: Sewing of incised margins of tunica as well as invagination of internal layer of tunica is almost completed



Photo 6: Intraoperative artificial erection: penis is straight.

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