

CENTER FOR RECONSTRUCTIVE URETHRAL SURGERY



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URETHROPLASTY



Nadiad – Gujarat - India

July 19 – 20, 2012

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Art of
URETHRAL
Reconstruction

Sanjay B. Kulkarni
Guido Barbagli

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Lichen sclerosus

Overview: etiology, clinical presentation and management

The discussion I have prepared for today is on a difficult topic as it is not easy to provide definitive guidelines of treatment for urethral stricture due to **lichen sclerosus**

In any case, I sincerely hope to provide you with useful information on the problems involved in the treatment of this complex type of stricture and disease



Lichen sclerosus: Terminology

- ❖ Balanitis xerotica obliterans
- ❖ Lichen sclerosus
- ❖ Lichen sclerosus et atrophicus
- ❖ Kraurosis vulvae

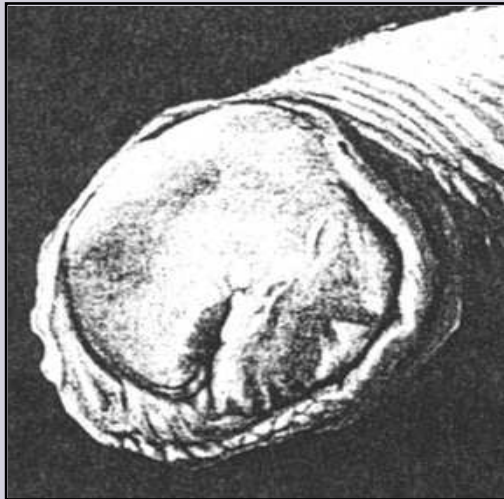


Balanitis xerotica obliterans (post operationem) und ihre Beziehungen zur „Kraurosis glandis et praeputii penis“.

Von
A. Stühmer.

Mit 4 Textabbildungen.

(Eingegangen am 14. Mai 1928.)



Ach Dermatol Syph 1928; 156: 613-623



Journal of the
American Academy of

DERMATOLOGY

VOLUME 32 NUMBER 3 MARCH 1995

CONTINUING MEDICAL EDUCATION

Lichen sclerosis

LTC Jeffrey J. Meffert, MC, USAF, COL Brian M. Davis, MC, USAF, and
COL Ronald E. Grimwood, MC, USAF *Lackland AFB, Texas*

In 1995, the American Academy of Dermatology recommended that the term lichen sclerosis be used in future reports to define the true incidence and the malignant potential of lichen sclerosis



The name “**Balanitis xerotica obliterans**” given this disease by Stühmer in 1928 is no longer adequate to describe this very serious immunological disorder

Lichen sclerosis: Etiology

- ❖ Immune dysregulation
- ❖ Infection
- ❖ Hormonal influences
- ❖ Local factors

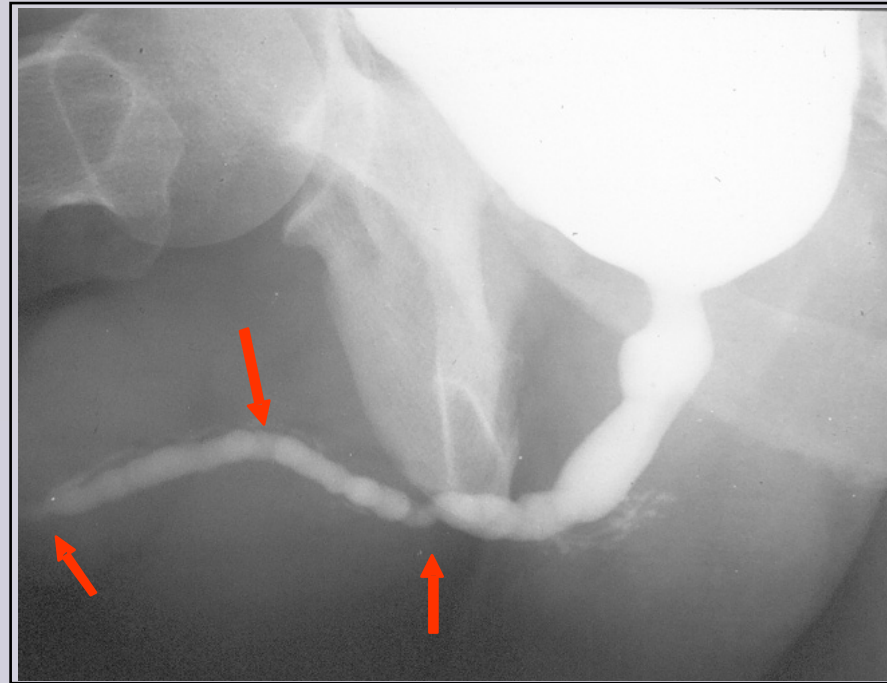


J Urol 2007; 178: 2268-2276

Lichen sclerosus is a complex immunological disorder of the genitalia involving:



**glans, meatus, coronal
sulcus and penile skin**

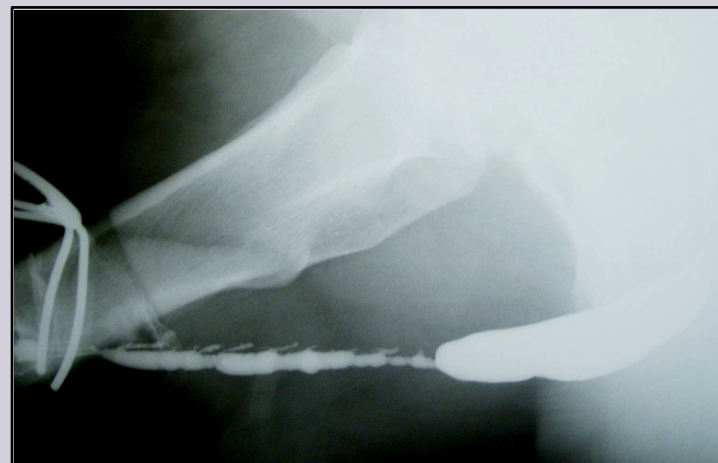


**navicularis, penile and bulbar
urethra**

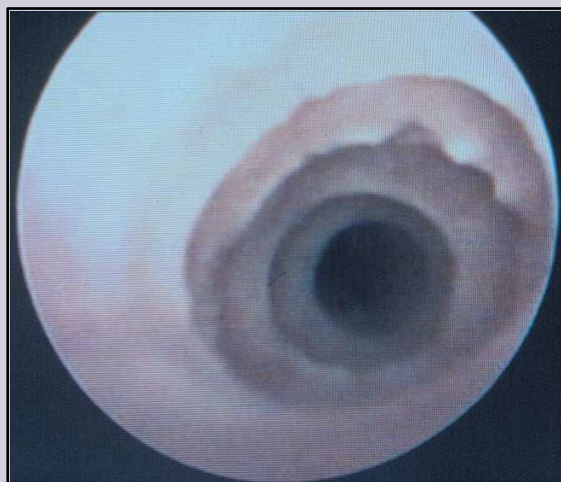
Lichen sclerosus is a chronic, evolving disease



→
2 years after



↓
5 years after



Lichen sclerosus

Sexual activity

Urinary function

Aesthetic appearance of the genitalia

Poor quality of life



Lichen sclerosis: Association with SCC

Penile Carcinoma in Patients With Genital Lichen Sclerosus: A Multicenter Survey

G. Barbagli, E. Palminteri, F. Mirri, G. Guazzoni, D. Turini and M. Lazzeri*

From the Center for Urethral and Genitalia Reconstructive Surgery (GB, EP), Arezzo, Sezione di Anatomia Patologica, Ospedale S. Maria alla Gruccia (FM), Montevarchi, San Raffaele-Vita Salute Hospital and University (GG), Milano and Department of Urology, Santa Chiara Firenze (DT, ML), Florence, Italy

The incidence of neoplastic changes in patients with lichen sclerosis ranges from 2.3% to 8.4%

J Urol 2006; 175: 1359-1363

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Lichen Sclerosus in 68 Patients With Squamous Cell Carcinoma of the Penis

Frequent Atypias and Correlation With Special Carcinoma Variants Suggests a Precancerous Role

Elsa F. Velazquez, MD, and Antonio L. Cubilla, MD

Lichen sclerosus is a pre-cancerous condition for at least some types of penile cancers, especially those not related to HPV

Am J Surg Pathol 2003; 27: 1448-1453

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Lichen sclerosus and SCC



Lichen sclerosus and Verrucous Carcinoma



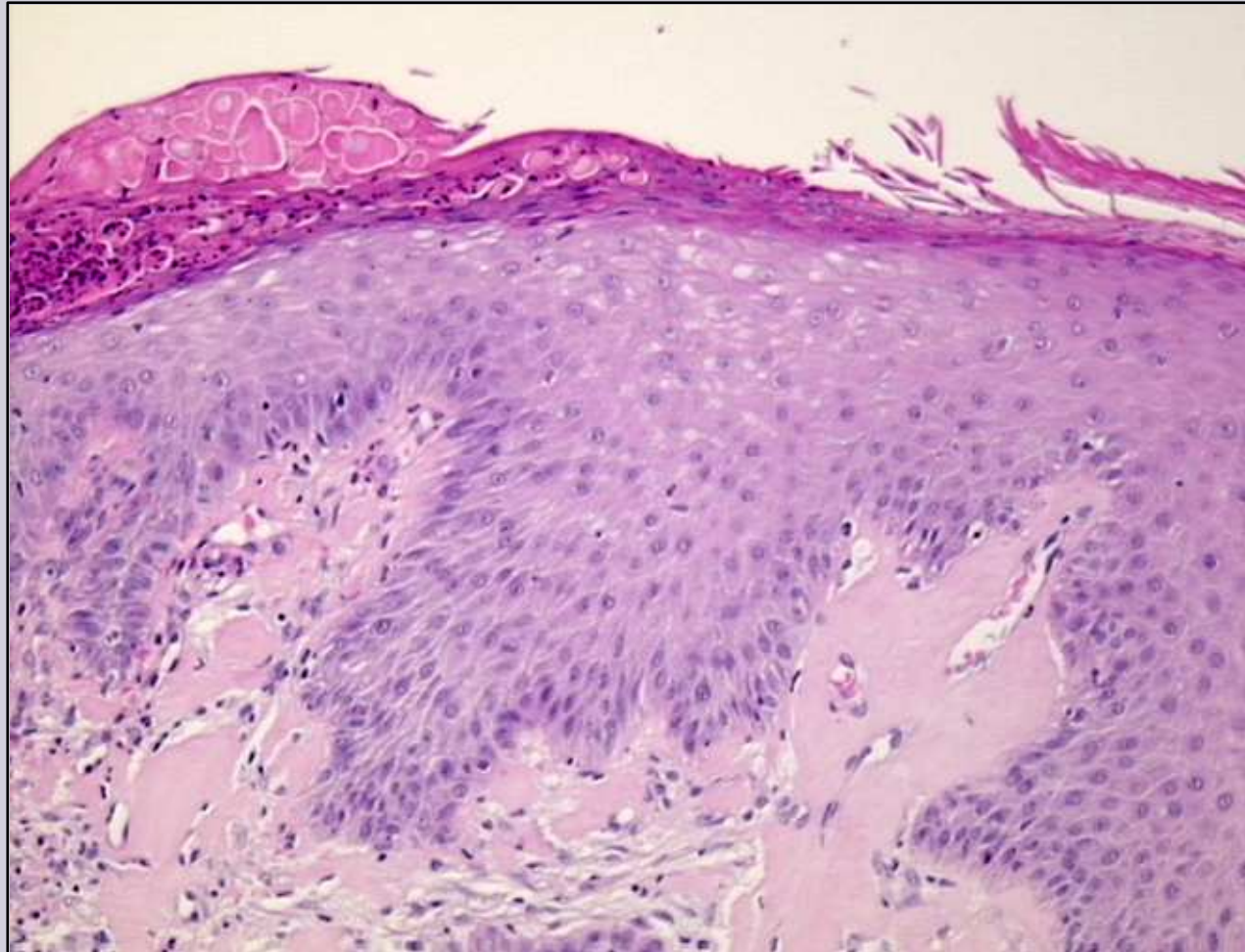
Lichen sclerosus and Queyrat's Erythroplasia



Lichen sclerosus and No-Carcinoma



Lichen sclerosus: Histology



The 5 histopathological features for diagnosis of lichen sclerosis

- ❖ **Hyperkeratosis of the epithelium**
- ❖ **Hydropic degeneration of the basal cells**
- ❖ **Sclerosis of the subepithelial collagen**
- ❖ **Dermal lymphocytic infiltration**
- ❖ **Atrophic epidermis with loss of rete pegs and homogenization of the collagen in the upper third of the dermis**

Lichen sclerosus: Histology



- Slight
- Moderate
- Severe

Lichen sclerosus and Urethral stricture

Epidemiology

Lichen sclerosis and Urethral stricture

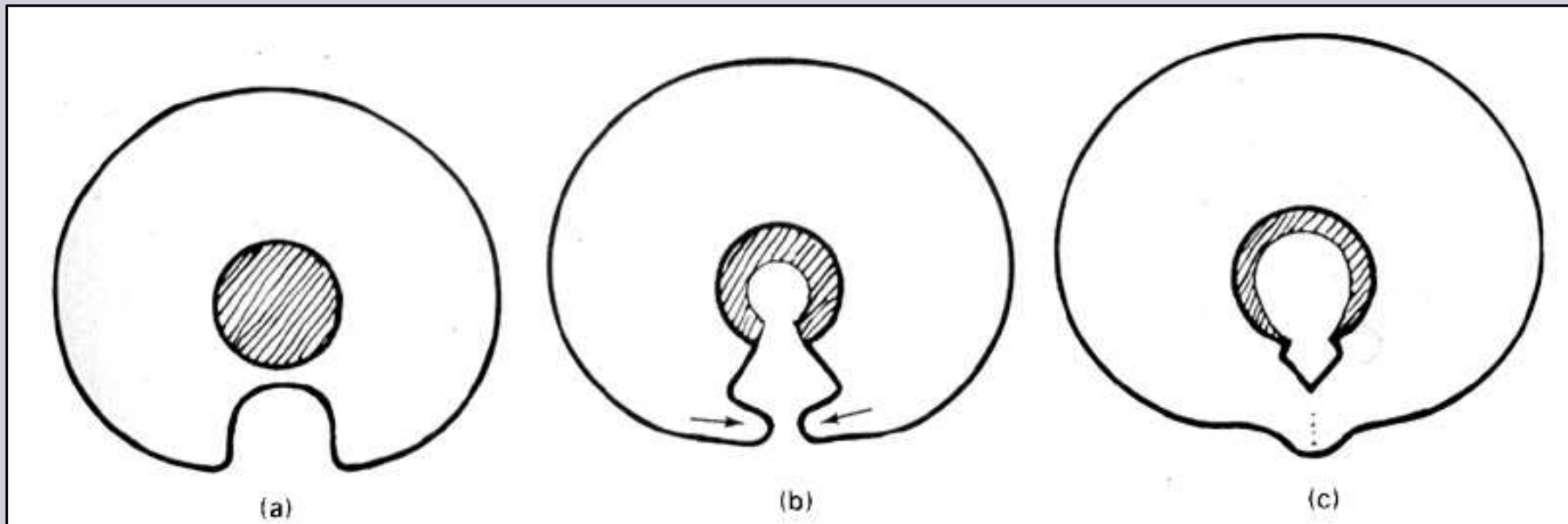
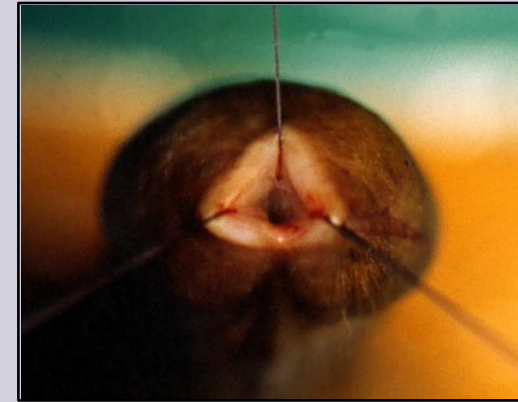
- ❖ **Lichen sclerosis** is increasing in all Centres specialized in treatment of urethral and genitalia diseases
- ❖ Involvement of the urethra in genital **lichen sclerosis** appears to be much more common than previously reported
- ❖ Prior to diagnosis, many patients had symptoms for years, thus encouraging the disease's progression over time
- ❖ In our experience, when the urethra is involved in the disease, 41% of patients showed panurethral stricture

Urol Int 2004; 73: 1-5

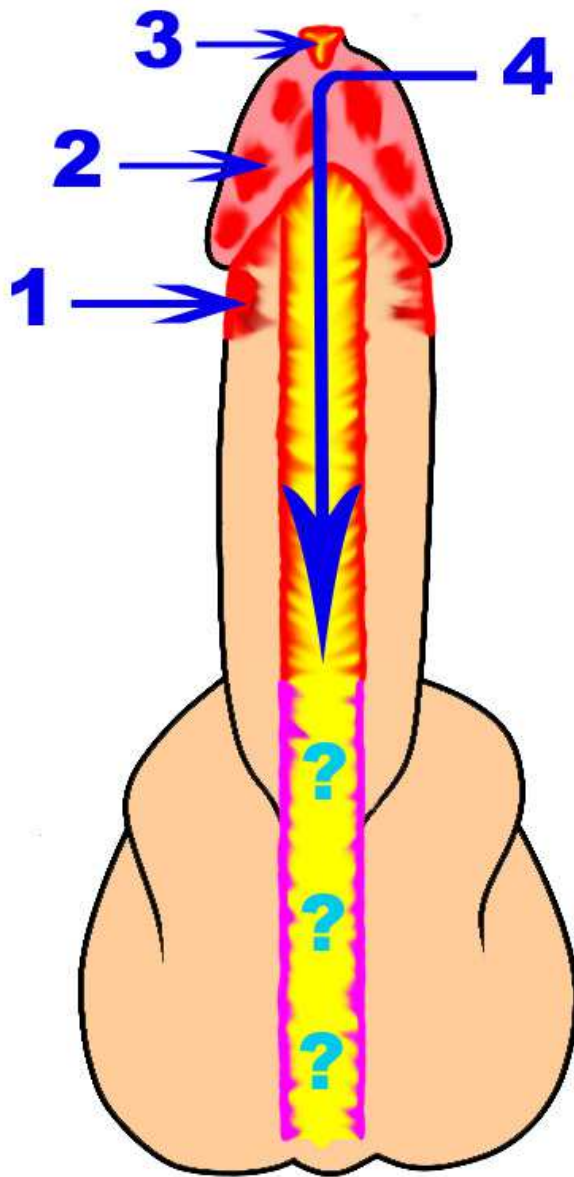
Lichen sclerosus and Urethral stricture

Pathogenesis

The embryology of the glans may explain the involvement of the external urinary meatus and navicularis tract in **lichen sclerosus**



The developing glanural urethra involves the preputial folds that fuse to genital folds



1 foreskin

2 glans

3 meatus

4 penile urethra

? bulbar urethra

Histological Evidence of Urethral Involvement in Male Patients With Genital Lichen Sclerosus: A Preliminary Report

Guido Barbagli, Francesco Mirri, Michele Gallucci, Salvatore Sansalone, Giuseppe Romano and Massimo Lazzeri*

From the Center for Reconstructive Urethral Surgery (GB), Arezzo, Sezione di Anatomia Patologica, Ospedale Santa Maria alla Gruccia (FM), Monteverdici, Department of Urology, Istituto Nazionale Tumori "Regina Margherita" (MG) and Department of Urology, Tor Vergata University (SS), Rome, and Departments of Urology, San Donato Hospital (GR), Arezzo and Istituto Fiorentino di Cura e Assistenza S. P. A., Gruppo GIOMI (ML), Florence, Italy

**Doctor
Francesco
Mirri**

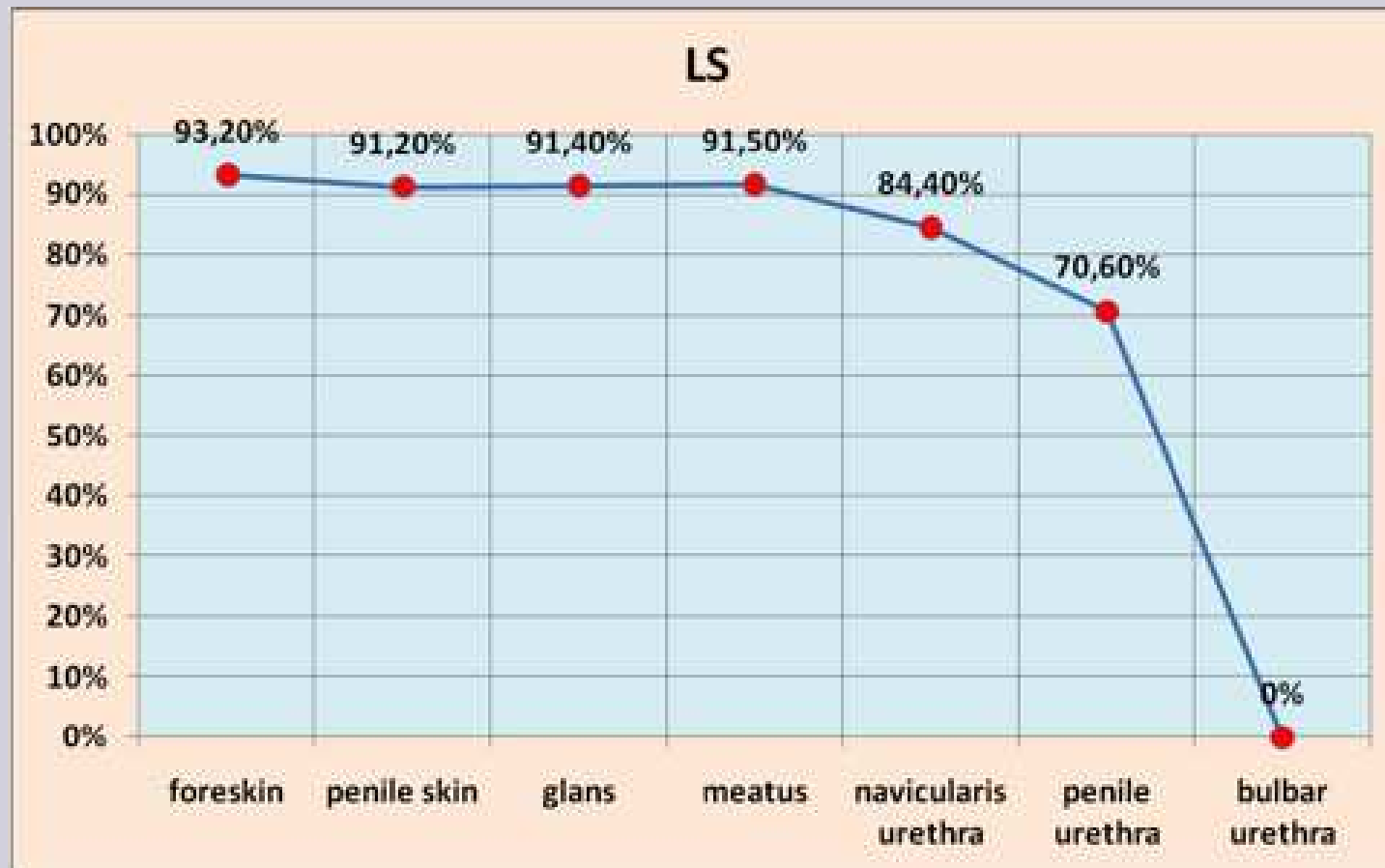


J Urol 2011; 185: 2171-2176

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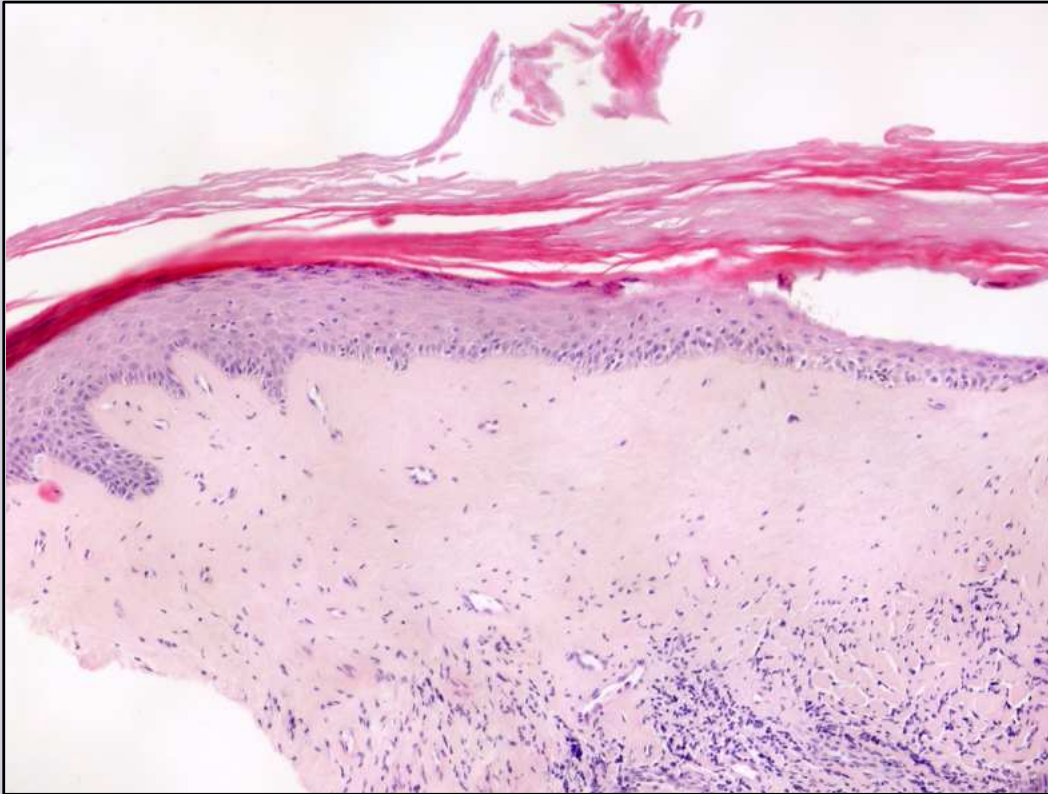
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Lichen sclerosus and Urethral stricture



99 patients (mean age 46 years)
274 biopsies for LS

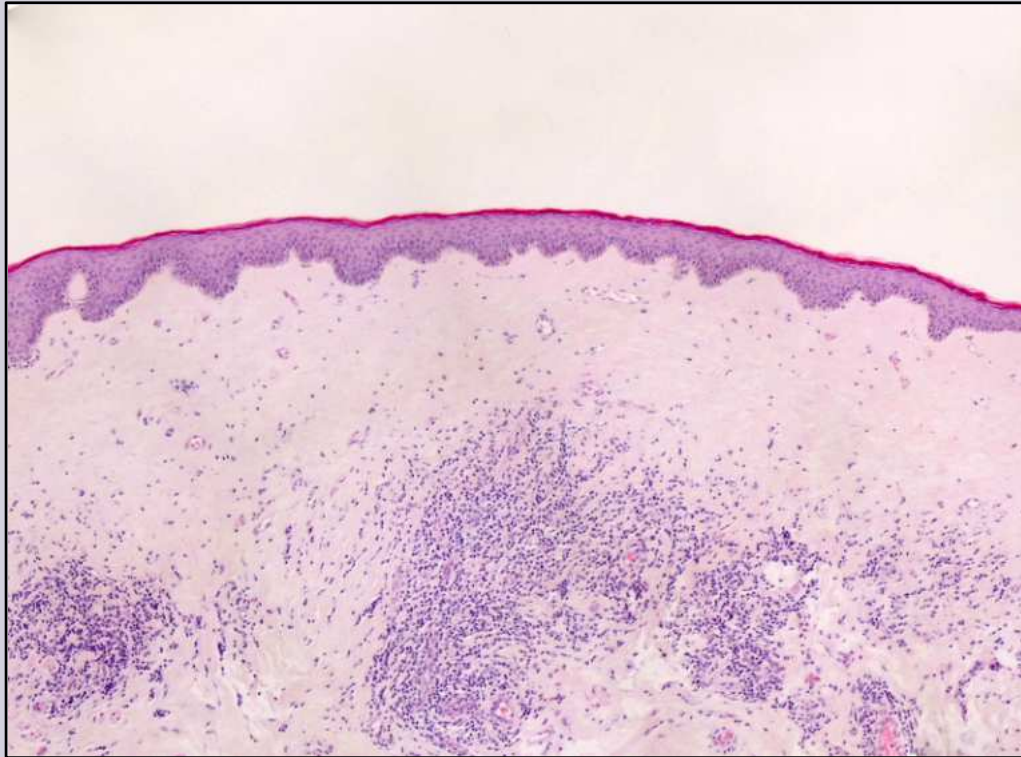
Lichen sclerosus and Urethral stricture



**Navicularis urethral
mucosa**

**Epidermized navicularis urethral mucosa.
LS similar to cutaneous counterpart**

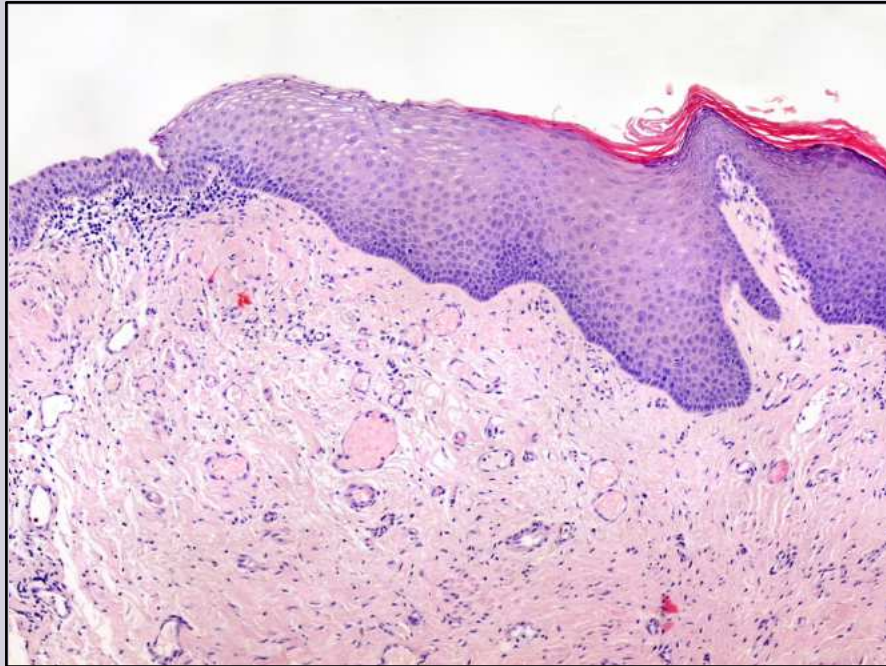
Lichen sclerosus and Urethral stricture



**Penile urethral
mucosa**

**Epidermized penile urethral mucosa.
LS similar to cutaneous counterpart**

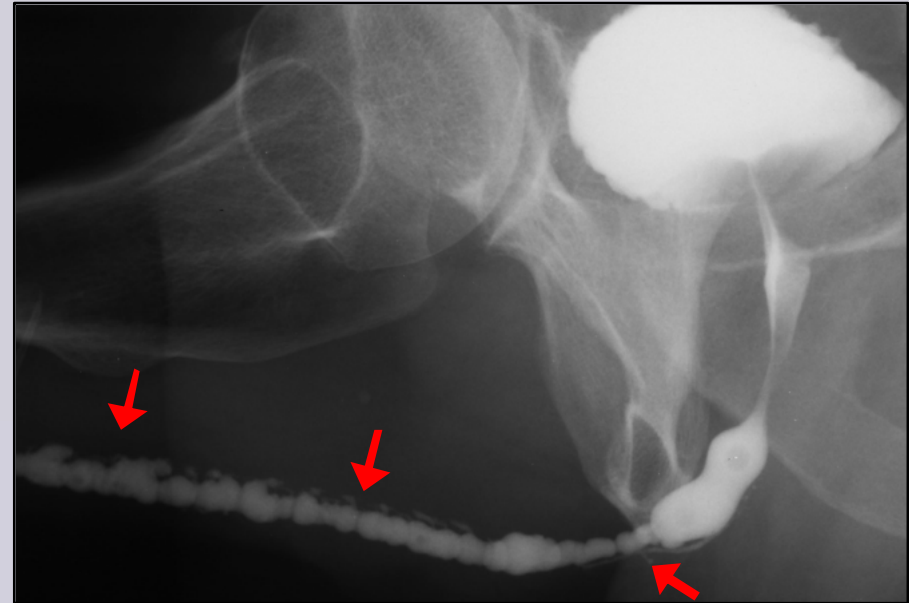
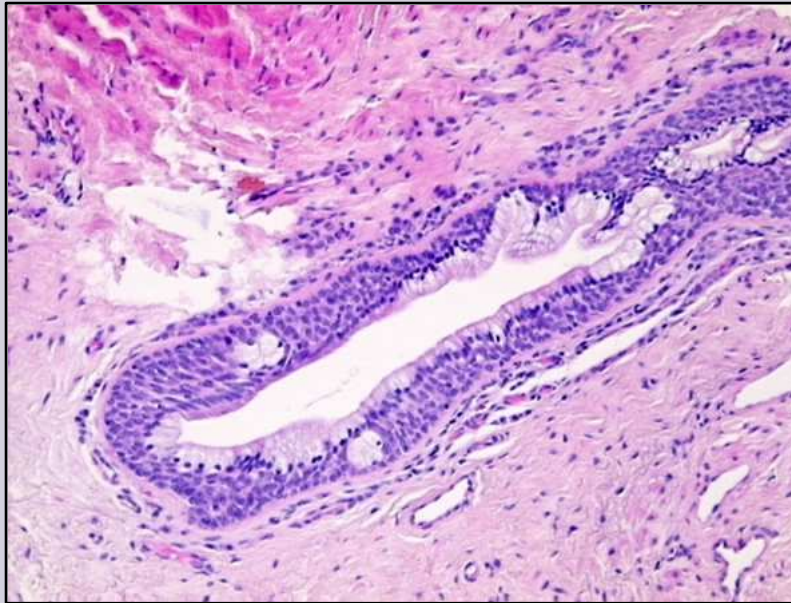
Lichen sclerosis and Urethral stricture



**Bulbar urethral
mucosa**

Transition from normal stratified cylindrical epithelium (left) through squamous nonkeratinizing metaplastic epithelium to keratinizing squamous metaplastic hyperplasia (right)

Lichen sclerosus and Urethral stricture



Squamous metaplasia involves the ductus of the periurethral glands, which becomes rigid and wide open. Thus the retrograde urethrography is able to depict the periurethral glands

Lichen sclerosis and Urethral stricture

- Involvement of external urinary meatus is a prognostic factor for spread **Lichen sclerosis** through the navicularis and penile tracts.
- More than 10 years are required to **Lichen sclerosis** progress.
- It is possible to document **Lichen sclerosis** in navicularis and penile urethral mucosa by histology.
- It is not possible do document **Lichen sclerosis** in bulbar urethral mucosa.

J Urol 2011; 185: 2171-2176

Lichen sclerosus

Treatment

Lichen sclerosis: Treatment

❖ Patients with urethral stricture disease due to **lichen sclerosis** are treated with so many various surgical approaches that it is really impossible to evaluate and standardize the long-term outcome of all these techniques

❖ The literature dealing with this argument is still terribly confused and does not furnish a reliable interpretation of the available data

How to select the surgical procedure

- ❖ **Patient:** age, co-morbidity, quality of life, request and expectation
- ❖ **Disease:** site, extension, histology, aggressiveness

Pre-operative investigations

- ❖ Multiple biopsies
- ❖ Retrograde and voiding urethrography
- ❖ Urethroscopy

41% of patients with genital LS showed pan-urethral strictures

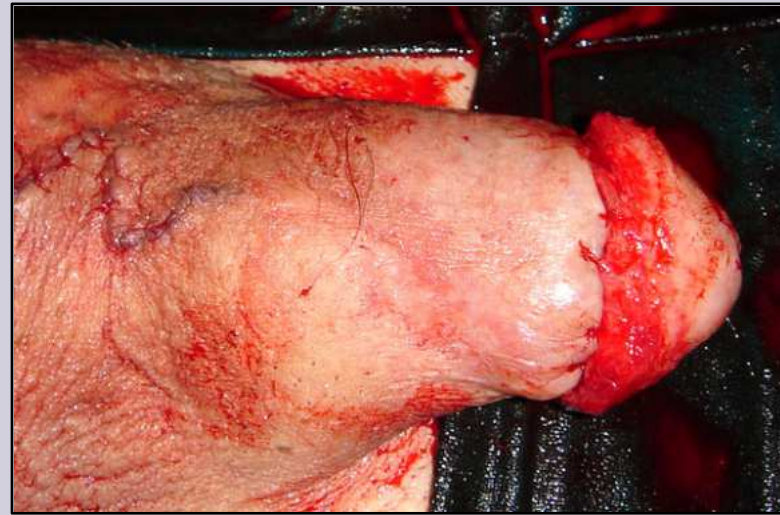


Urol Int 2004; 73: 1-5

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Lichen sclerosus: Extensive circumcision

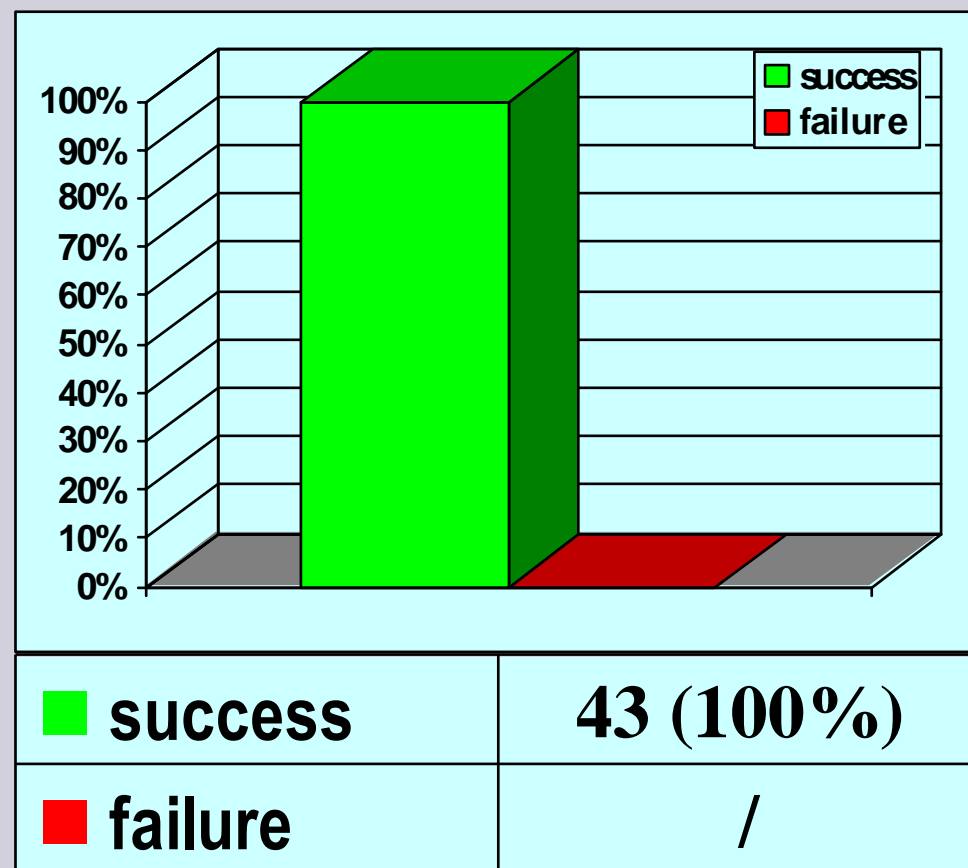


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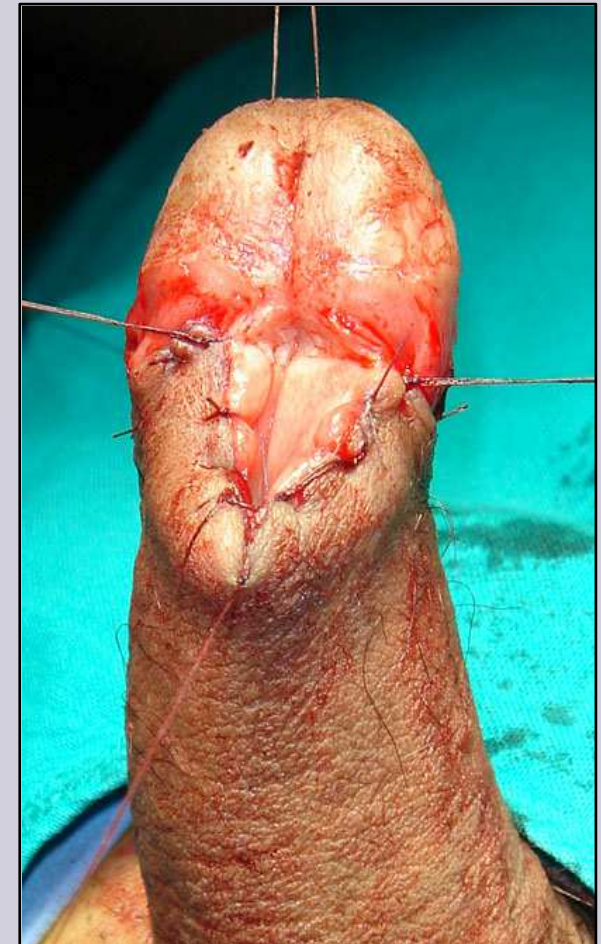
Lichen sclerosis: circumcision

43 patients – median age 45 years – median follow-up 88 months



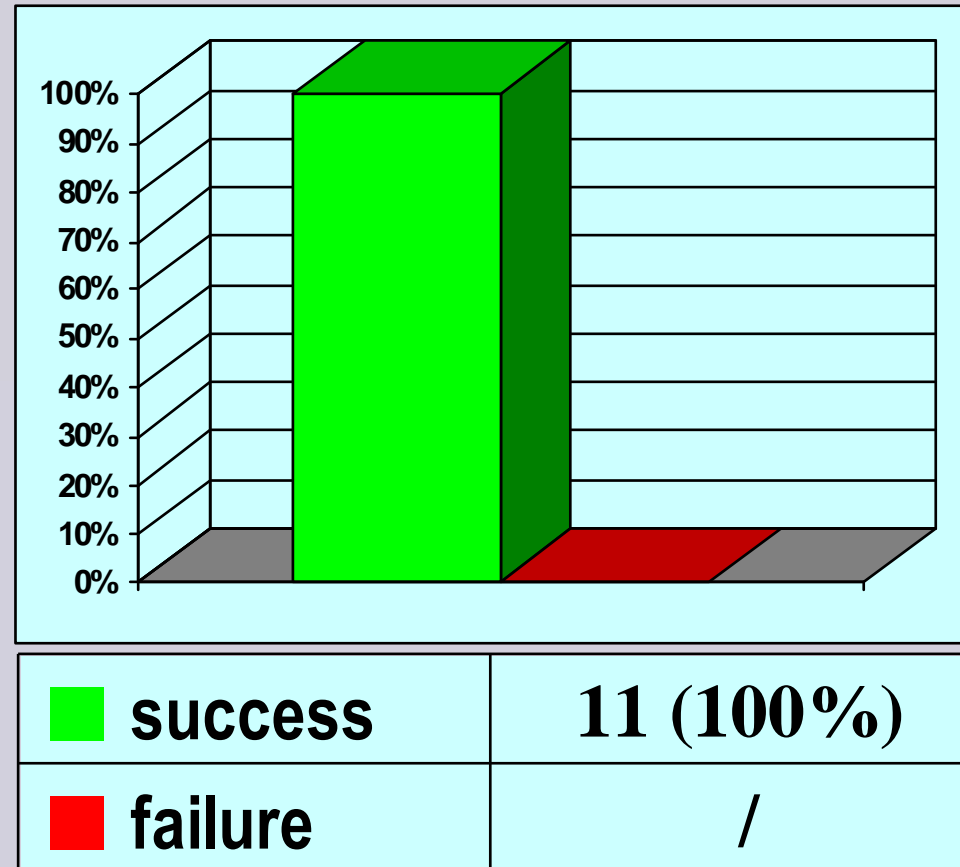
Up-to-date: December 31, 2011

Lichen sclerosus: Circumcision and meatotomy



Lichen sclerosis: circumcision and meatotomy

11 patients – median age 48 years – median follow-up 94 months



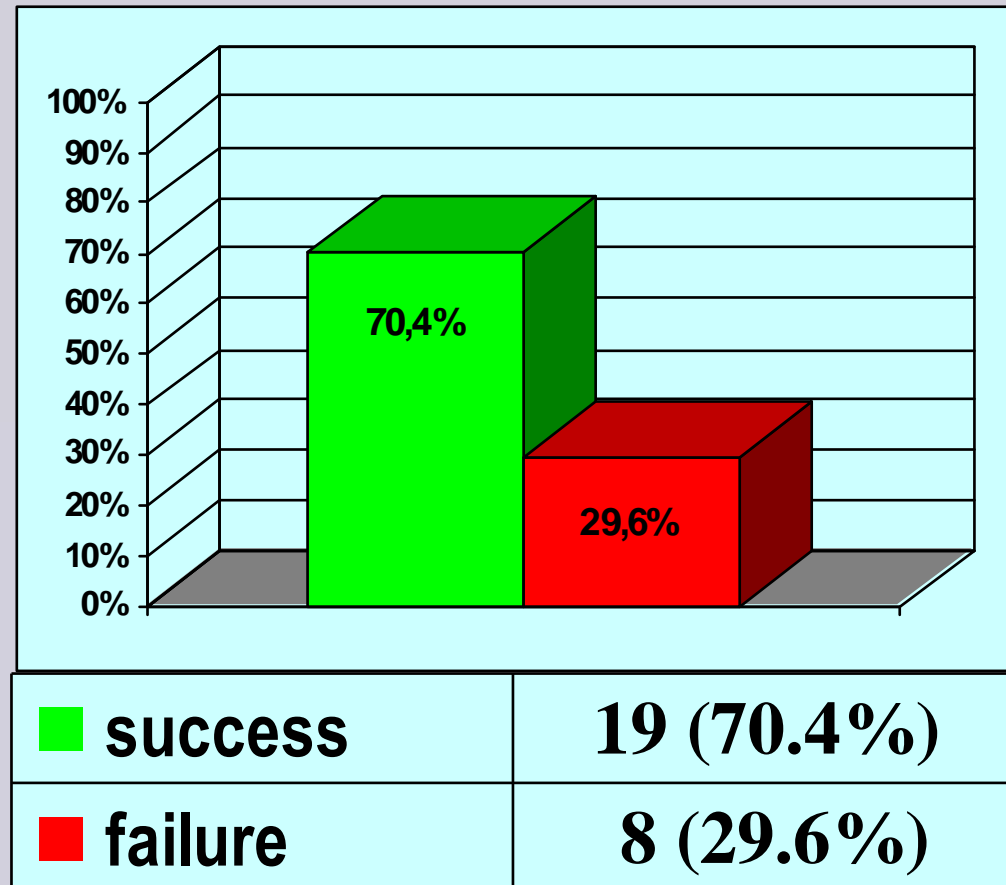
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Lichen sclerosus: wide meatotomy



Lichen sclerosis: meatotomy

27 patients – median age 42 years – median follow-up 69 months

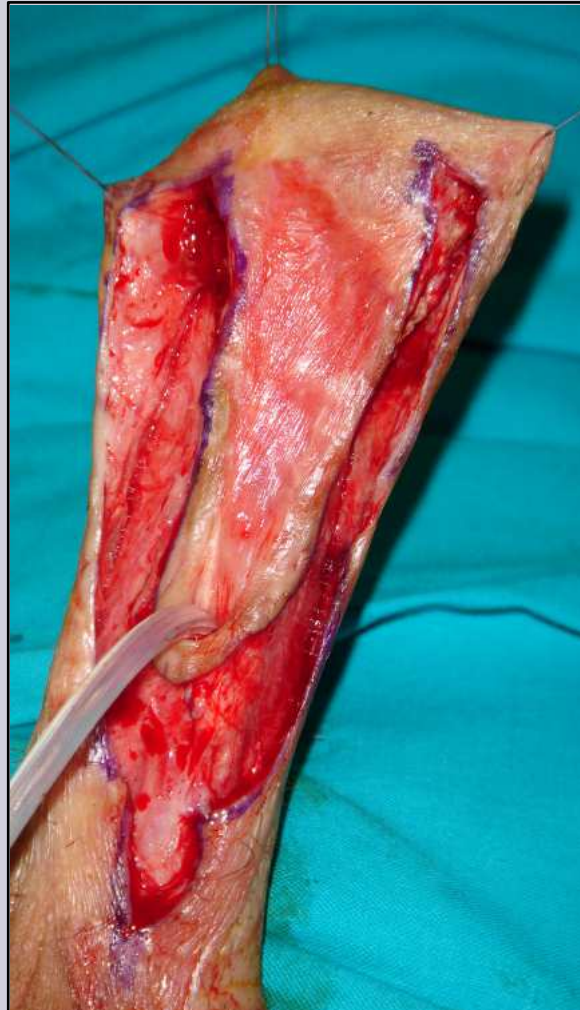


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Lichen sclerosis: penile two-stage urethroplasty

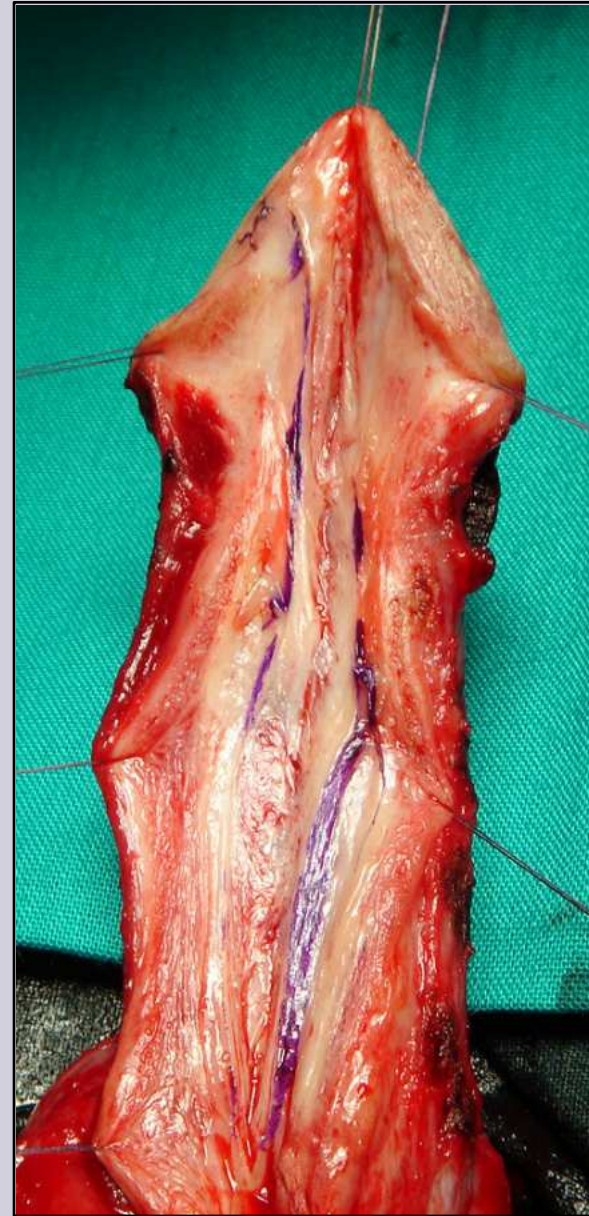
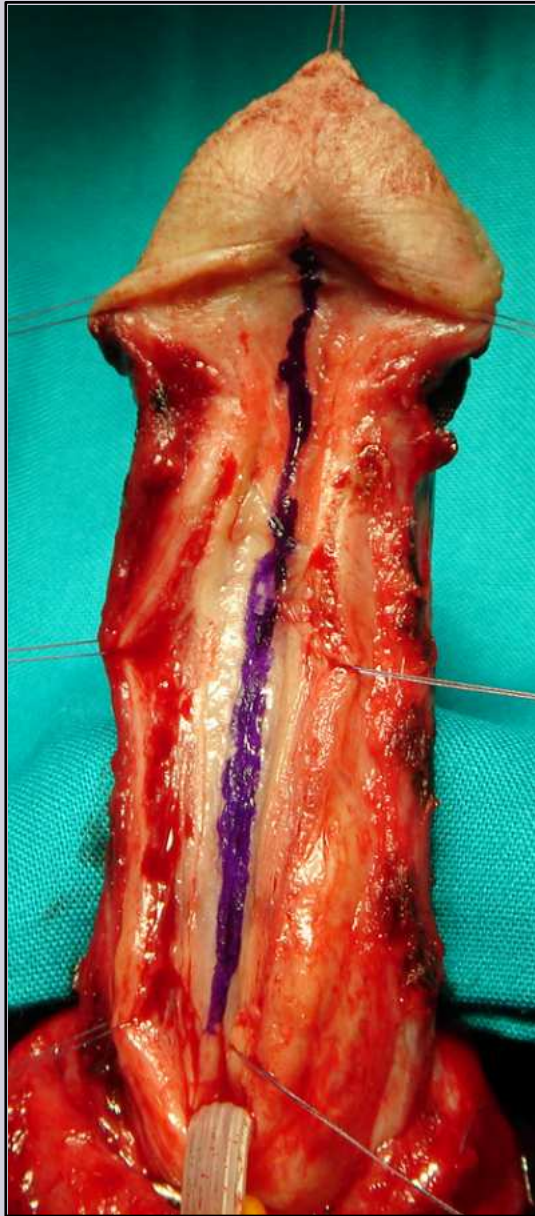


Lichen sclerosis: penile two-stage urethroplasty



Lichen sclerosus: penile one-stage urethroplasty





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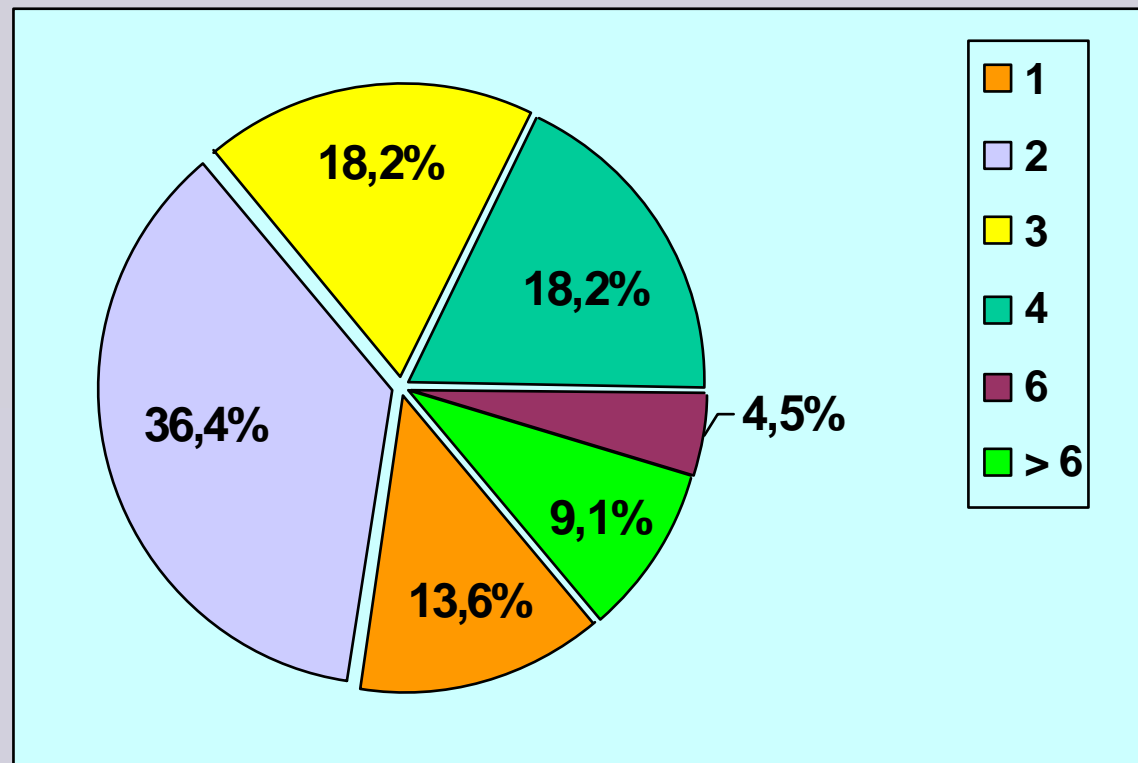


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Lichen sclerosis: penile urethroplasty

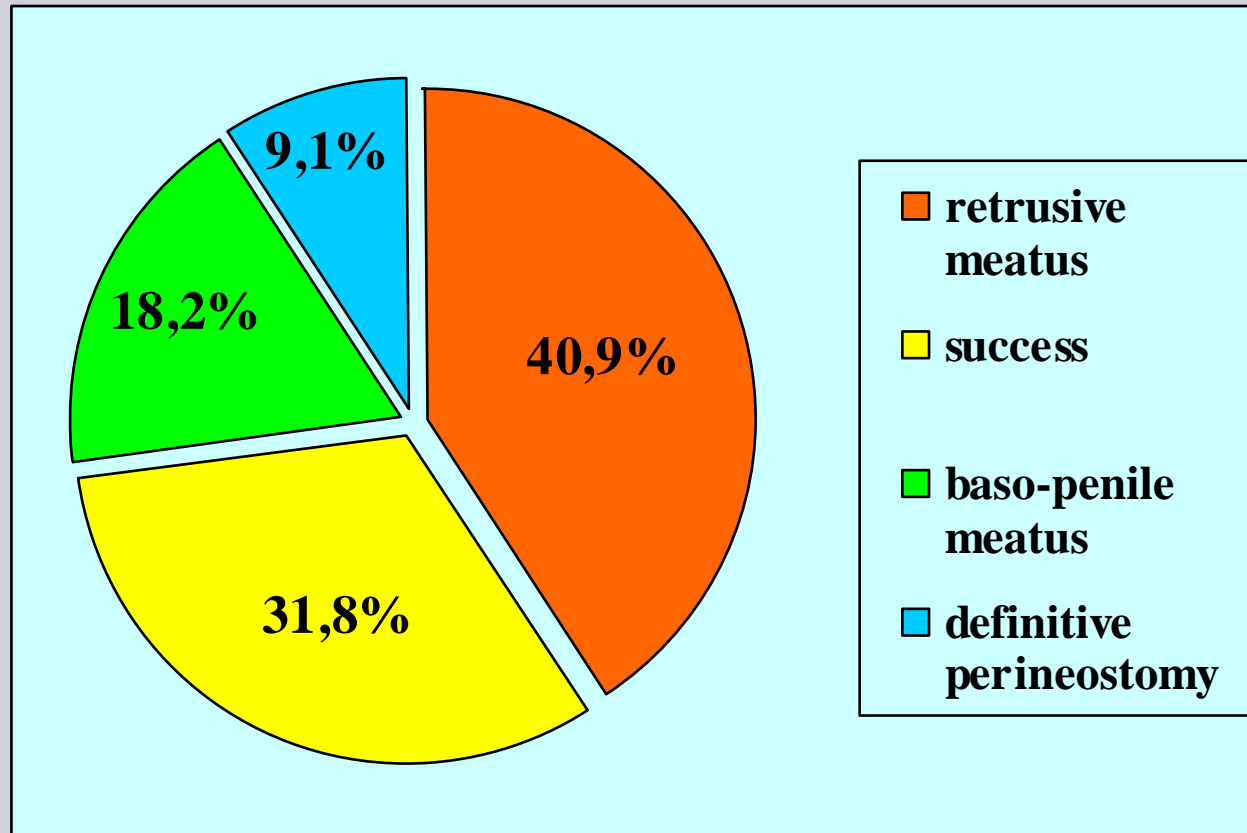
Number of operations



22 patients – median age 53 years – median follow-up 46 months

Up-to-date: December 31, 2011

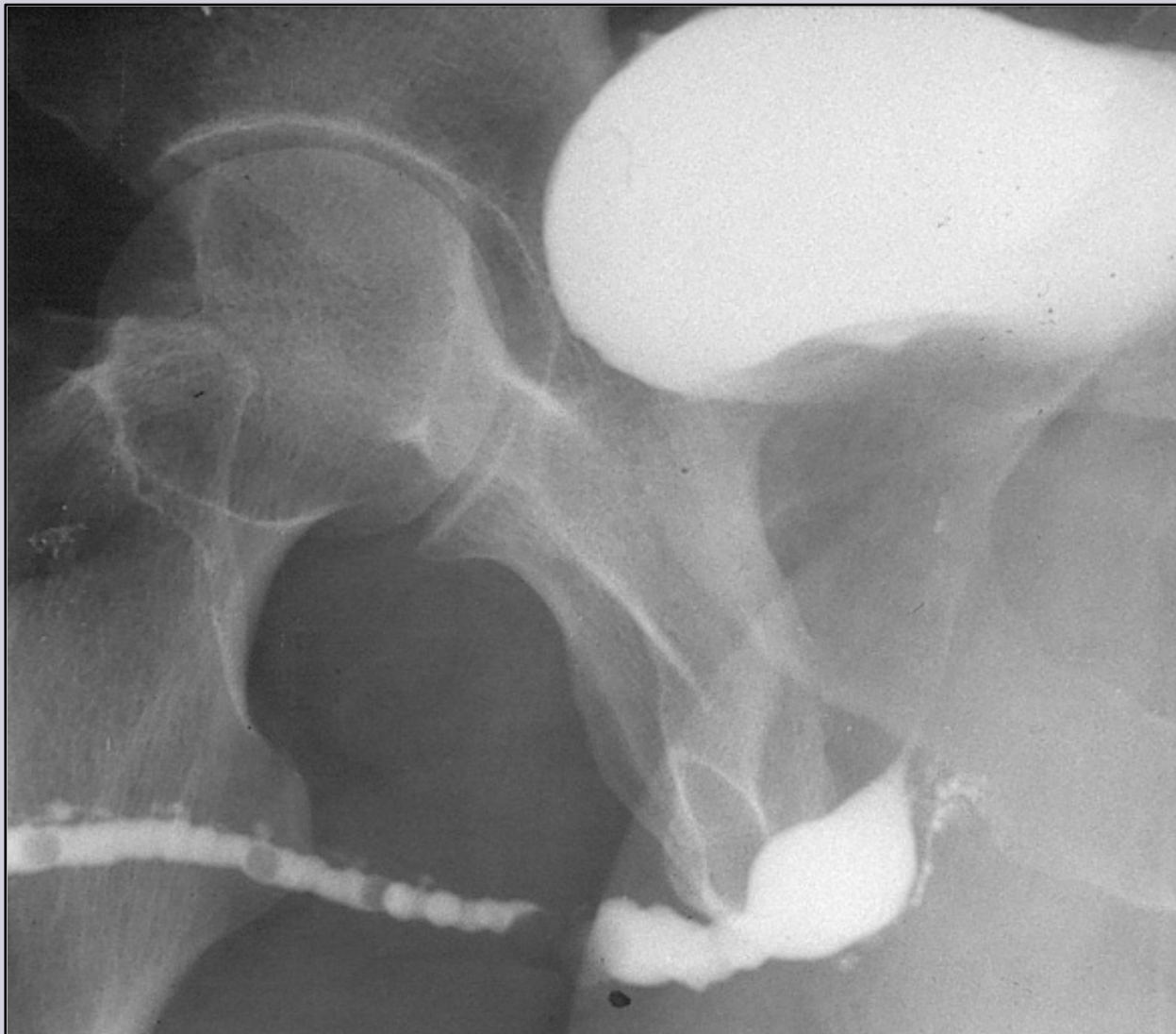
Lichen sclerosis: penile urethroplasty



22 patients – median age 53 years – median follow-up 46 months

Up-to-date: December 31, 2011

Lichen sclerosus: panurethral stricture

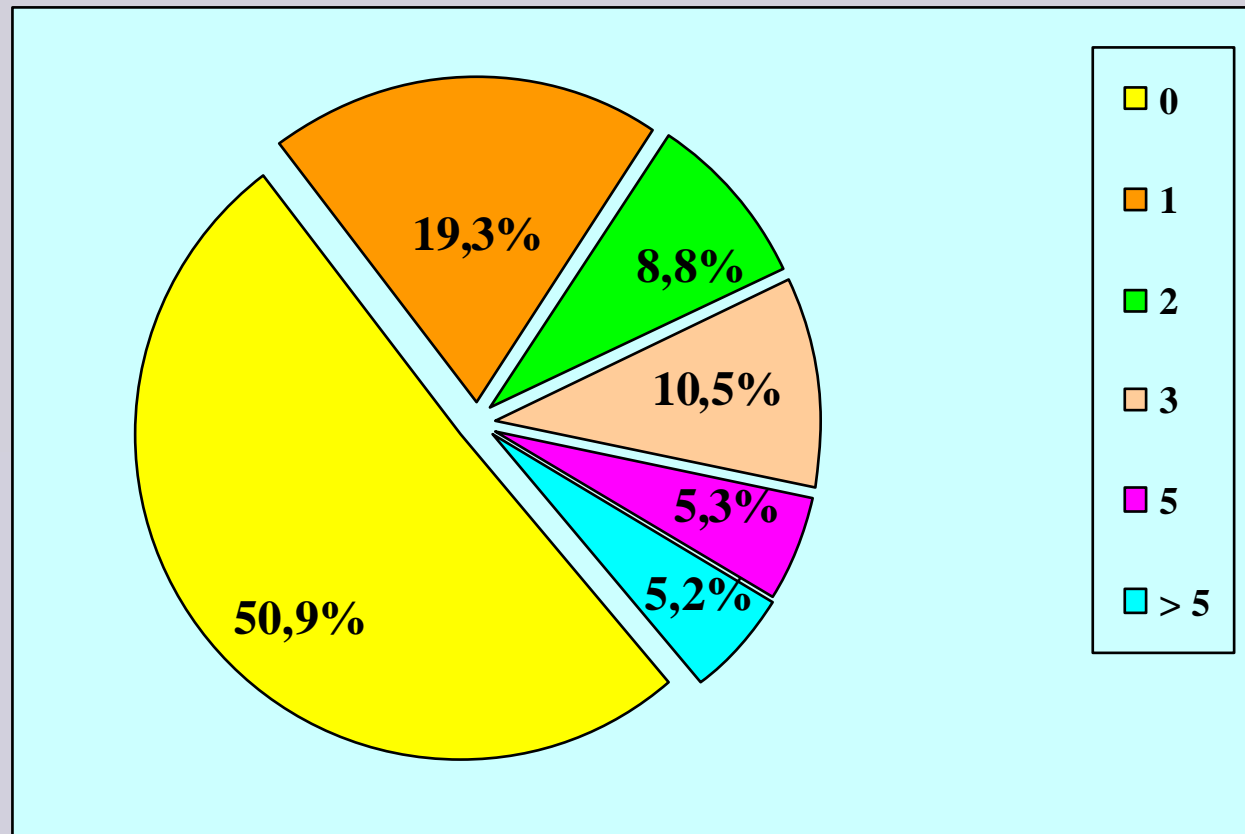


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Lichen sclerosis: panurethral stricture

Number of prior operations

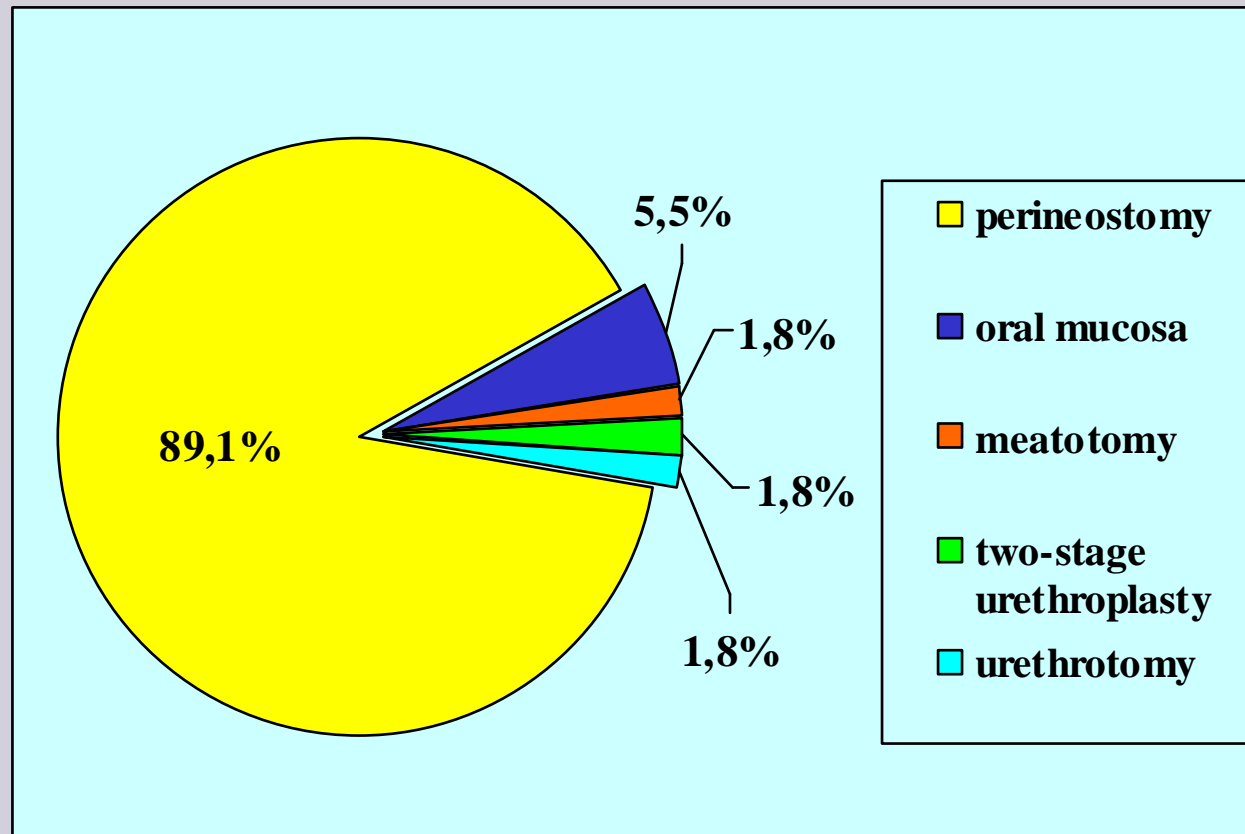


57 patients – median age 57 years – median follow-up 73 months

Up-to-date: December 31, 2011

Lichen sclerosus: panurethral stricture

Type of repair



57 patients – median age 57 years – median follow-up 73 months

Up-to-date: December 31, 2011

One-stage Kulkarni's urethroplasty

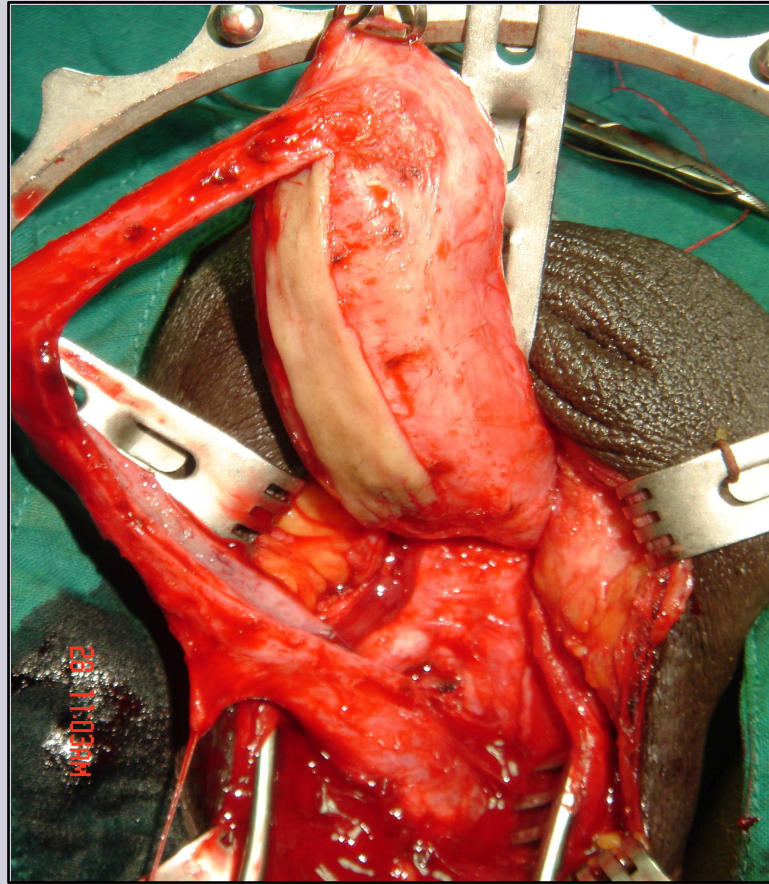


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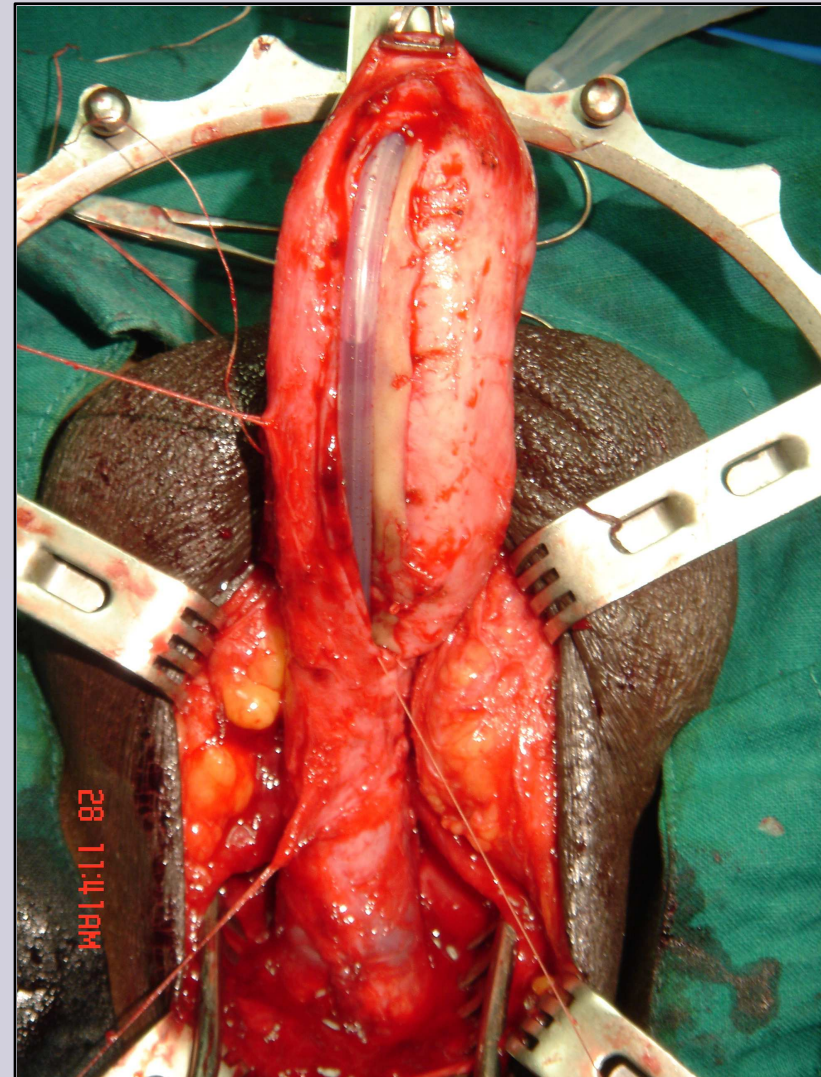
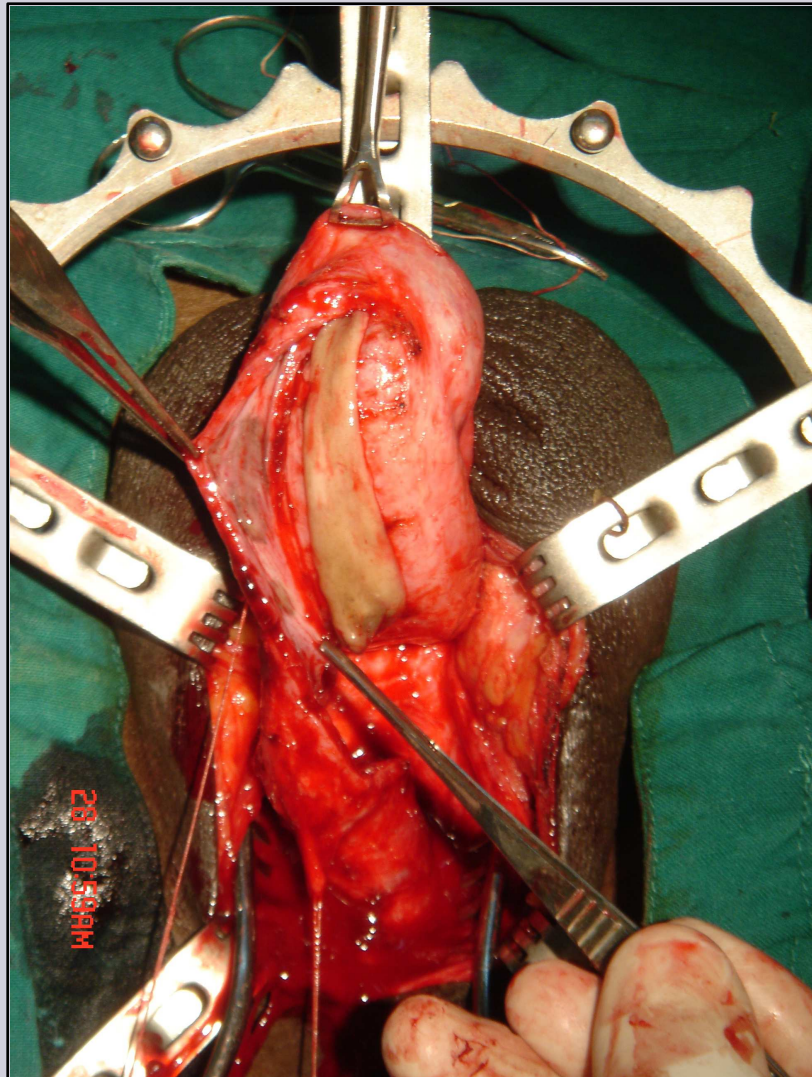
Kulkarni urethroplasty



Full length dorsal buccal mucosal onlay graft urethroplasty

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available at www.sciencedirect.com
journal homepage: www.europeanurology.com



European Association of Urology



Reconstructive Urology

Lichen Sclerosus of the Male Genitalia and Urethra: Surgical Options and Results in a Multicenter International Experience with 215 Patients

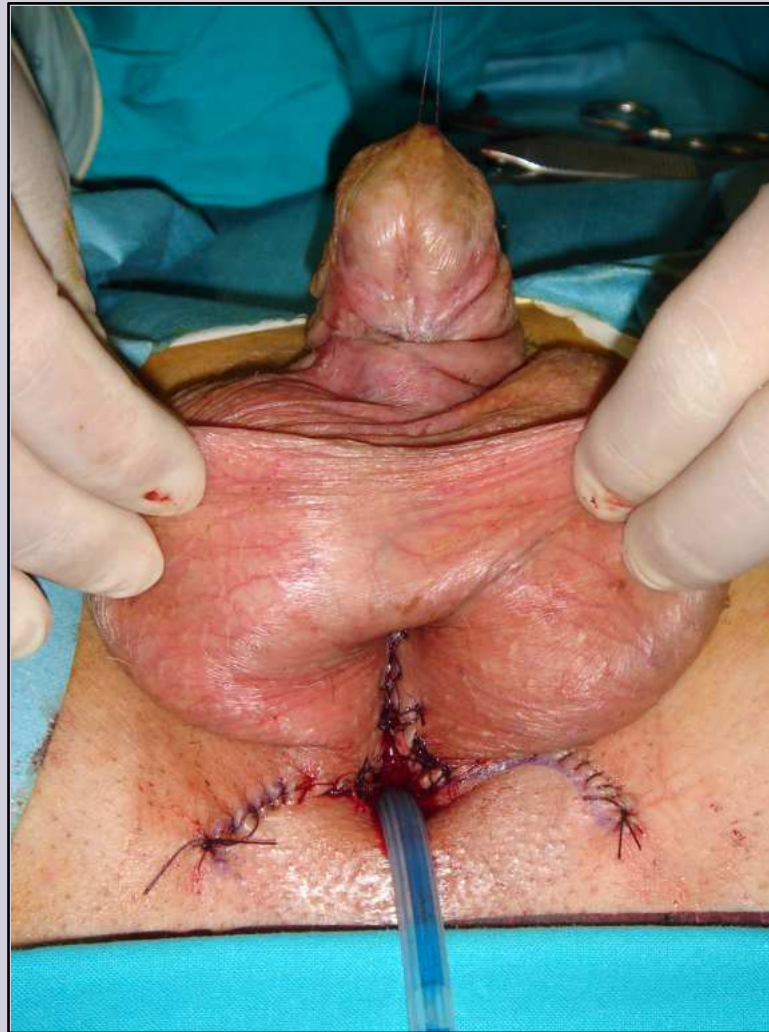
Sanjay Kulkarni^{a,c}, Guido Barbagli^b, Deepak Kirpekar^c, Francesco Mirri^d,
Massimo Lazzeri^{e,*}

Eur Urol 2009; 55: 945-956

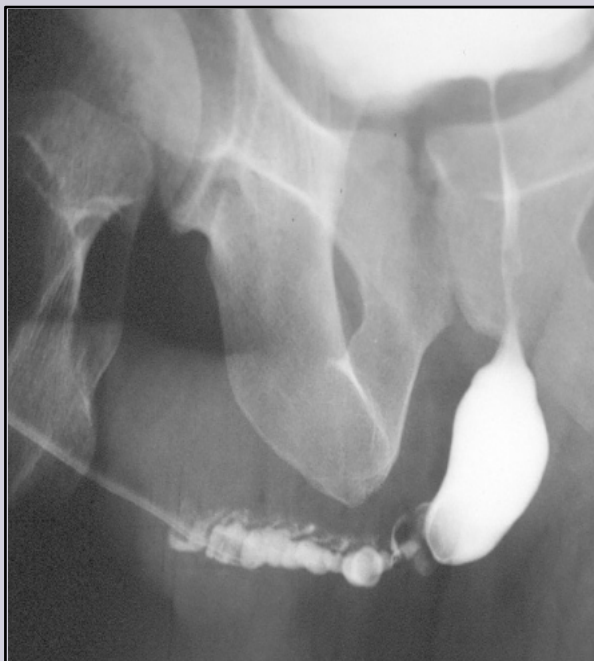
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Definitive perineal urethroostomy

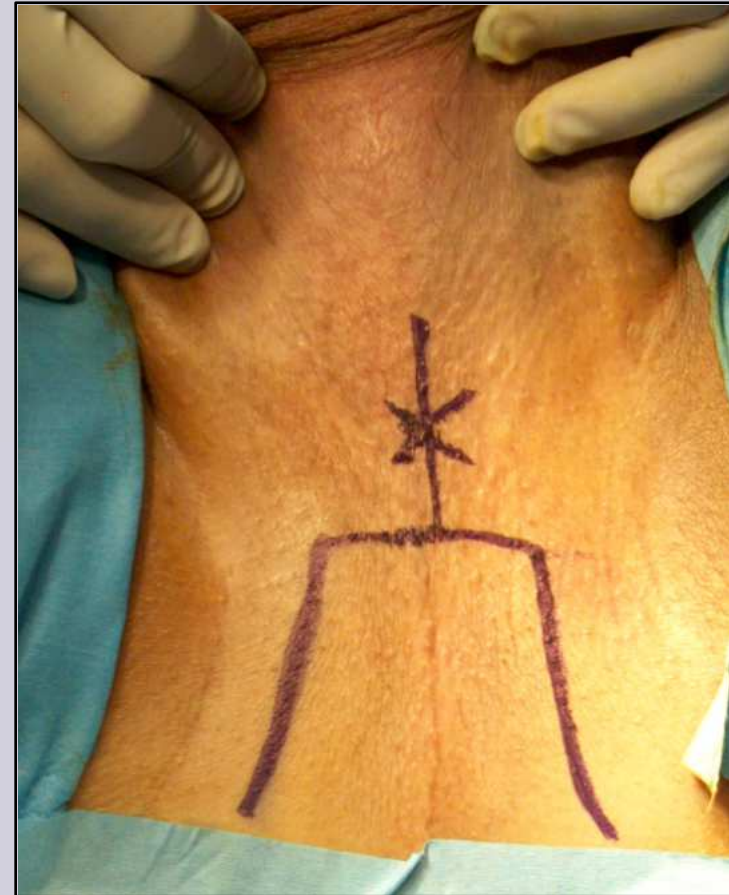
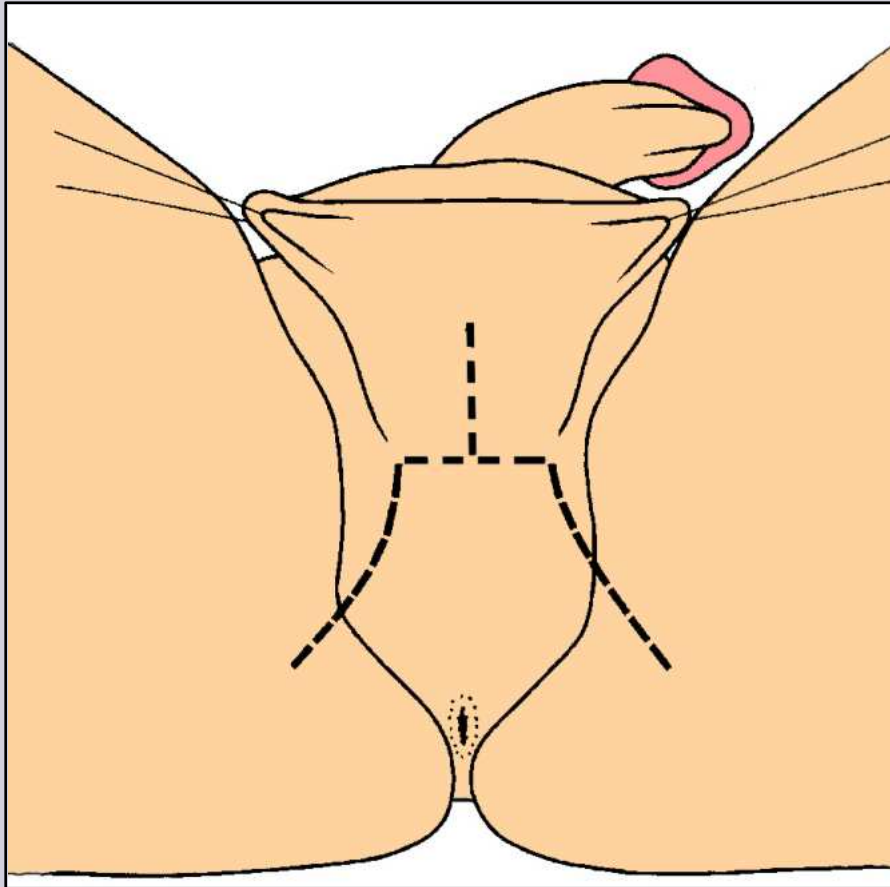


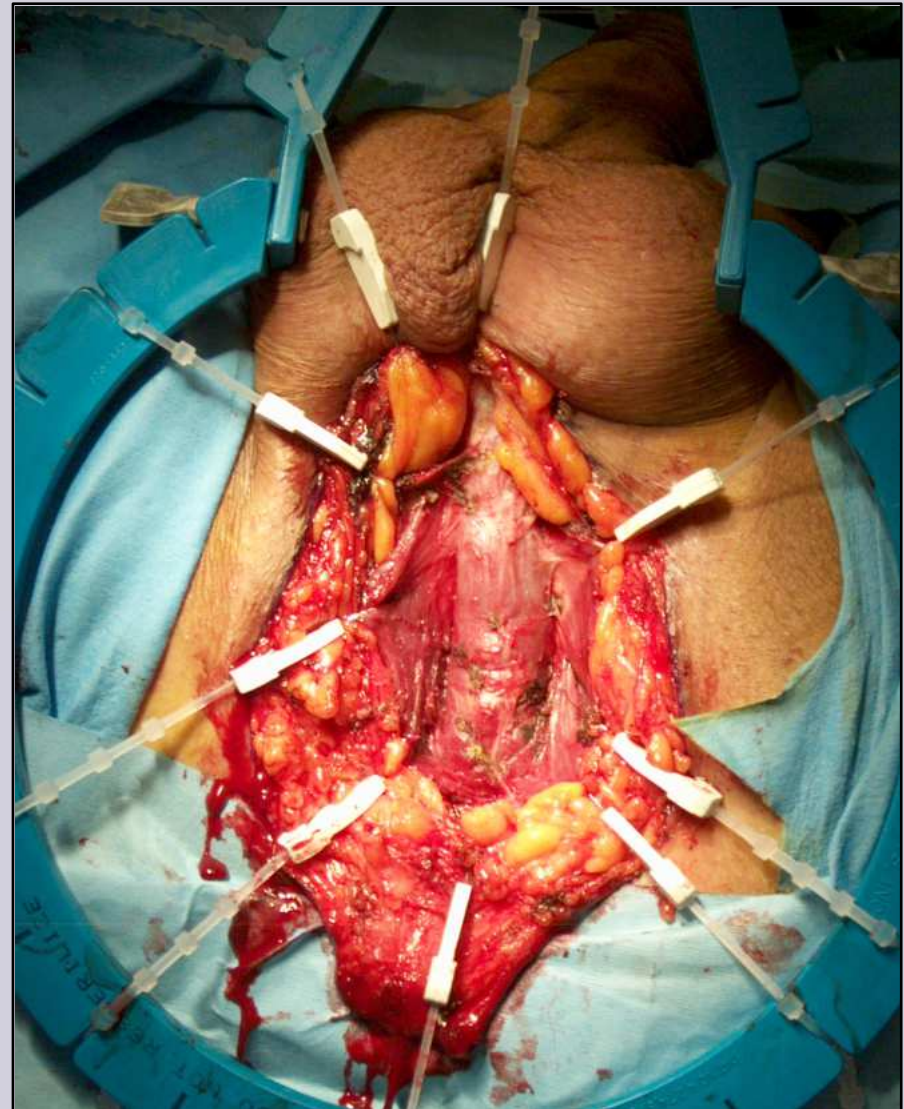
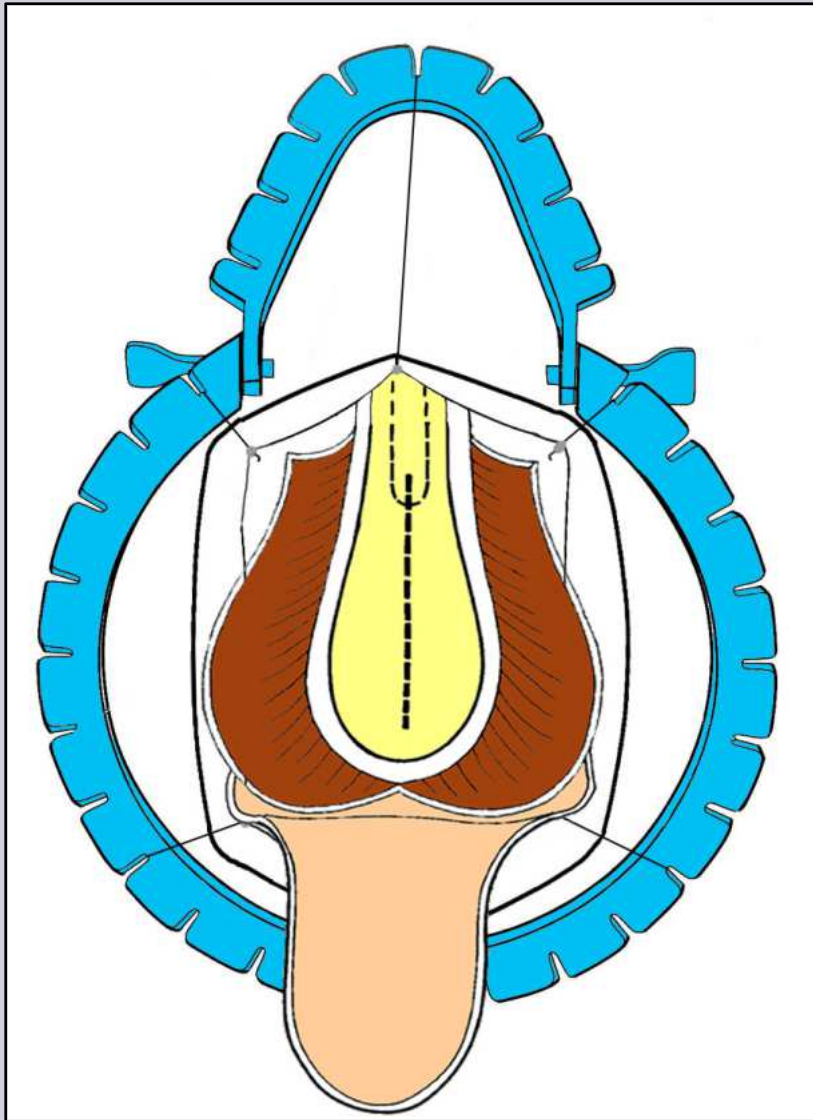
When ?



Patient, 68 years old, who underwent 12 previous urethral attempts to repair urethral stricture due to lichen sclerosus

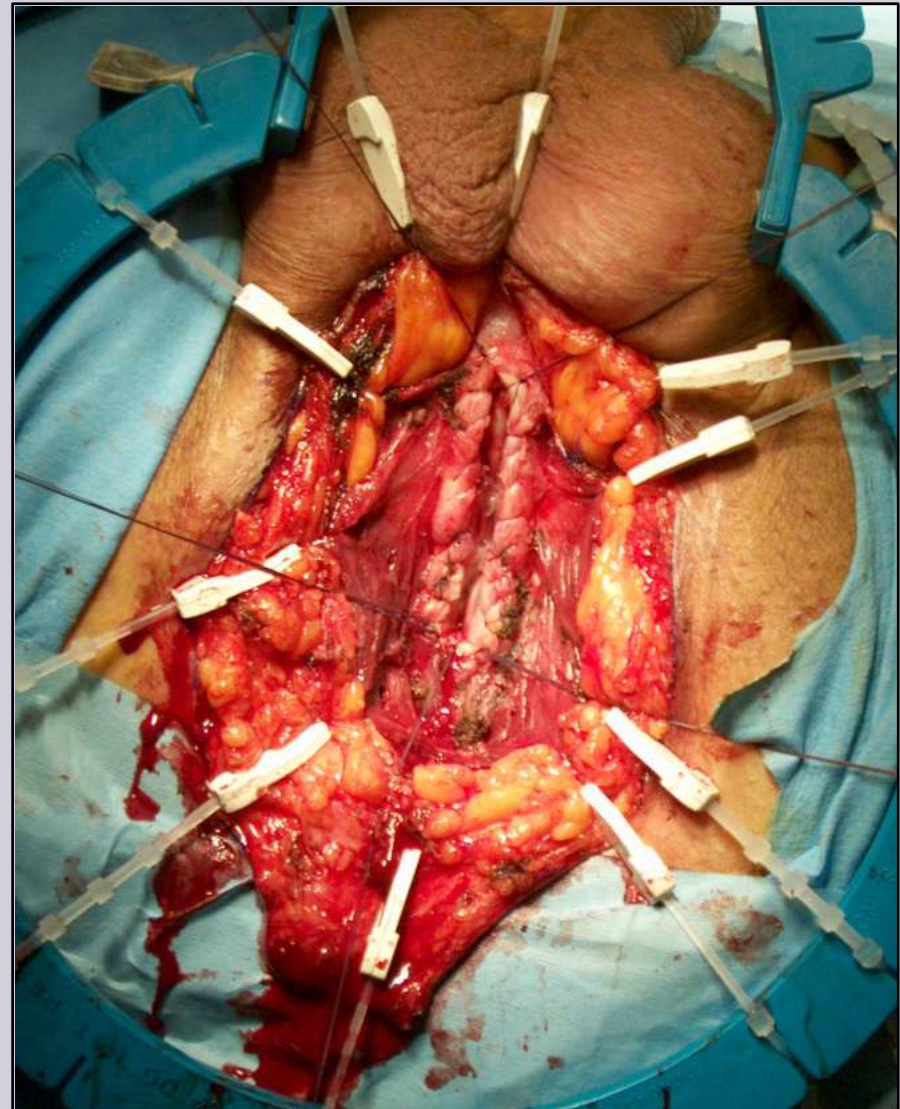
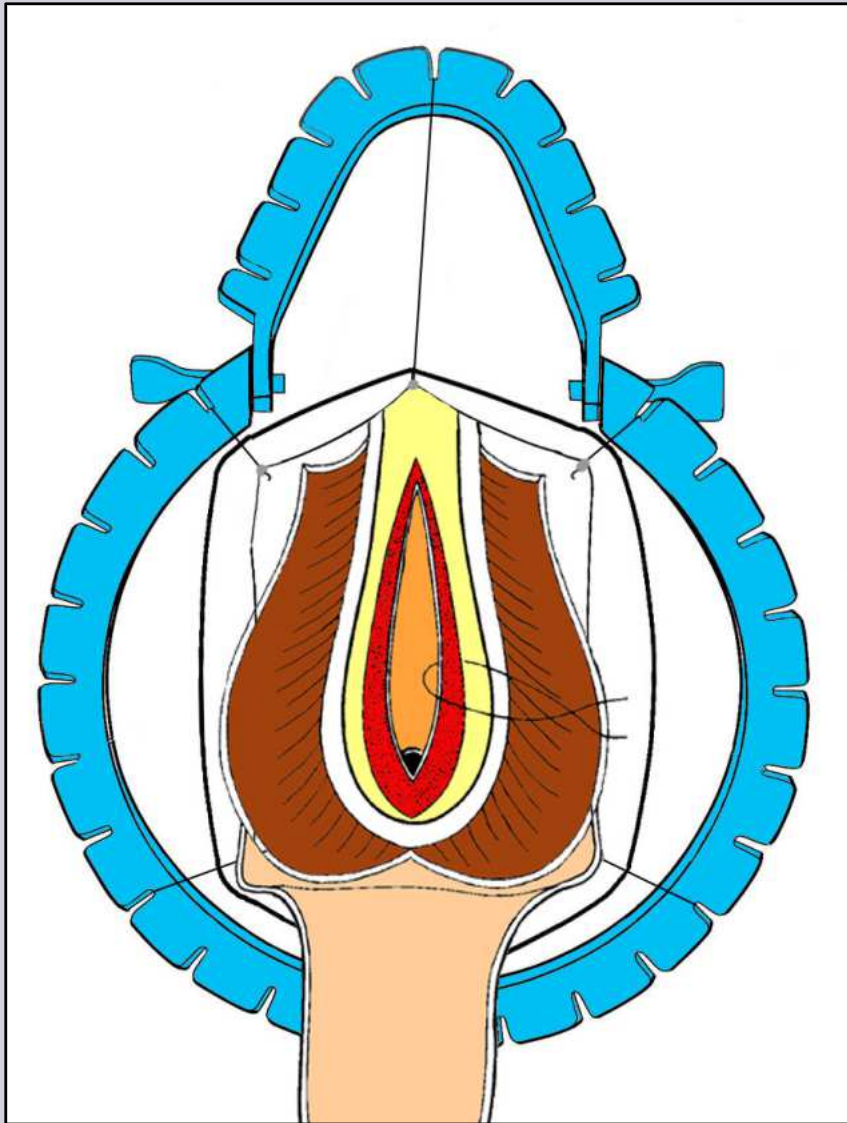
Surgical technique





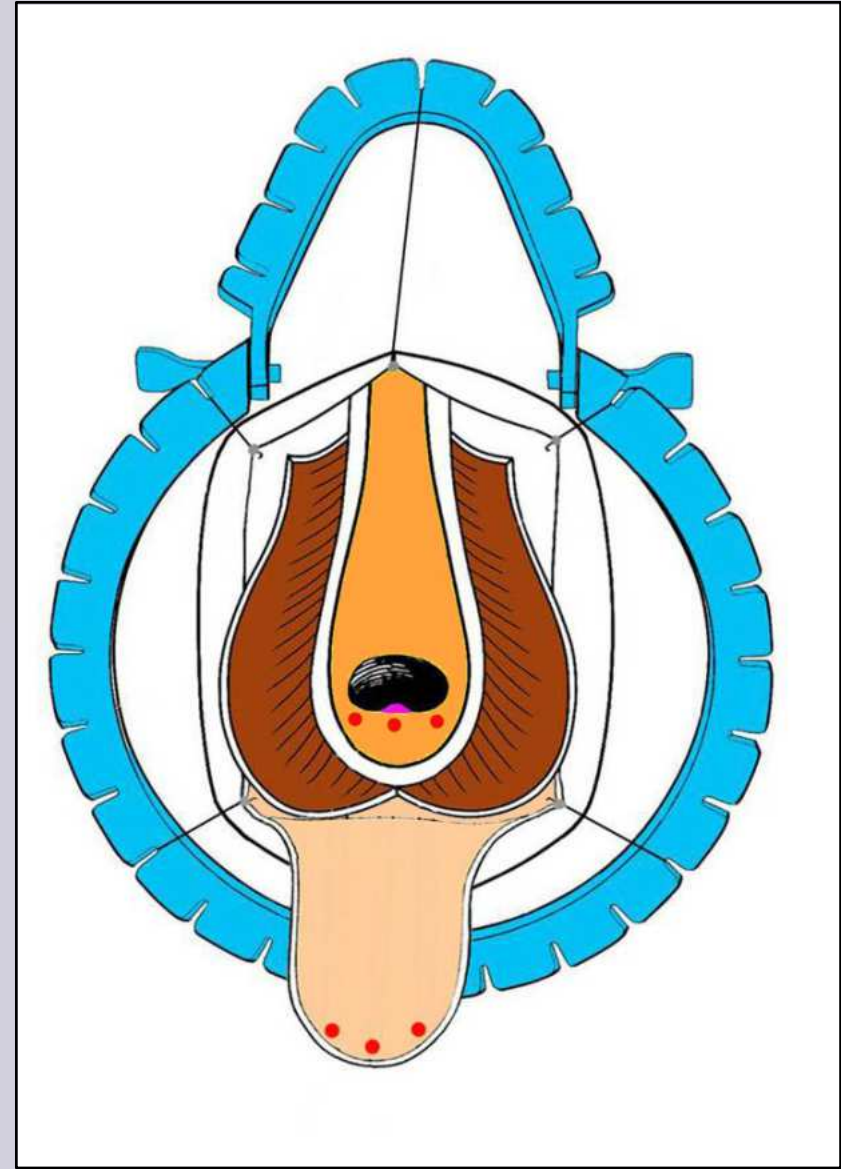
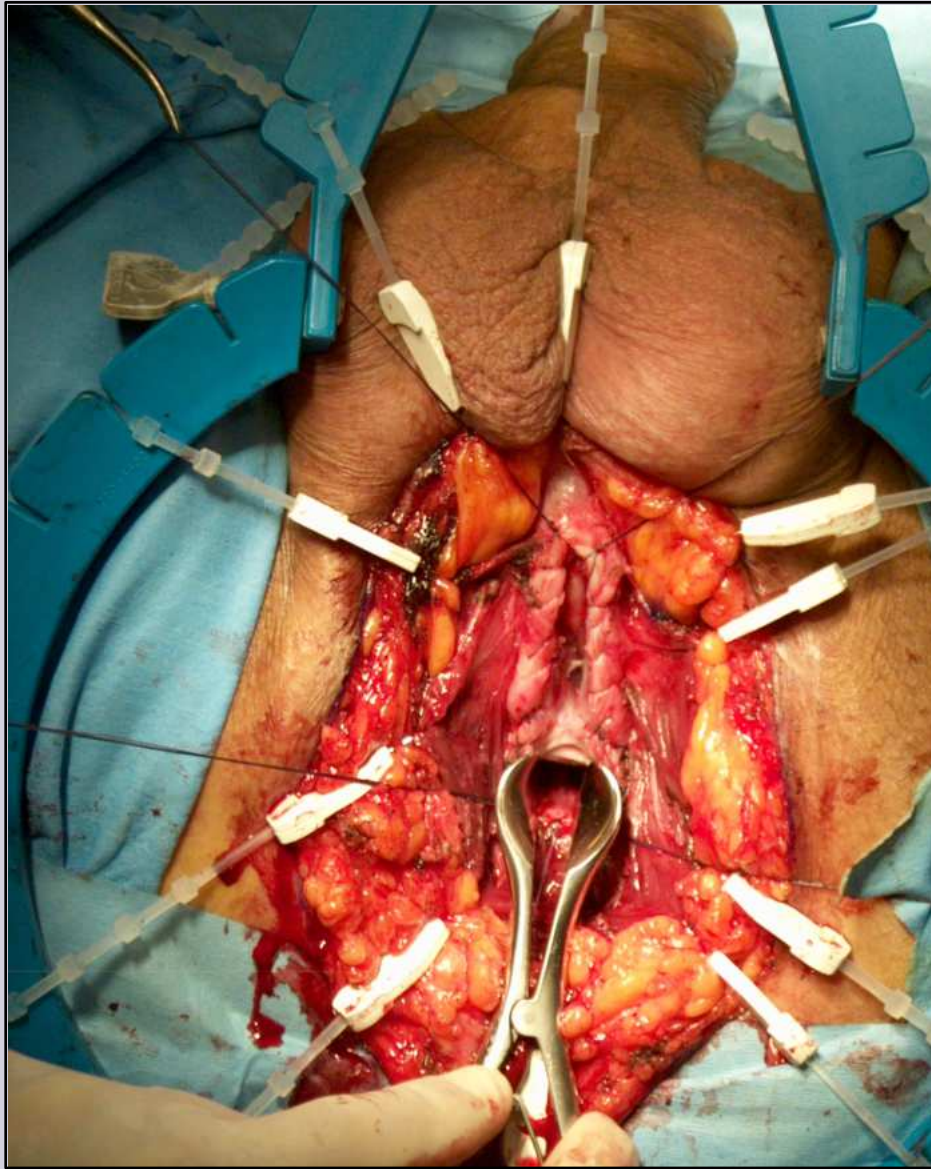
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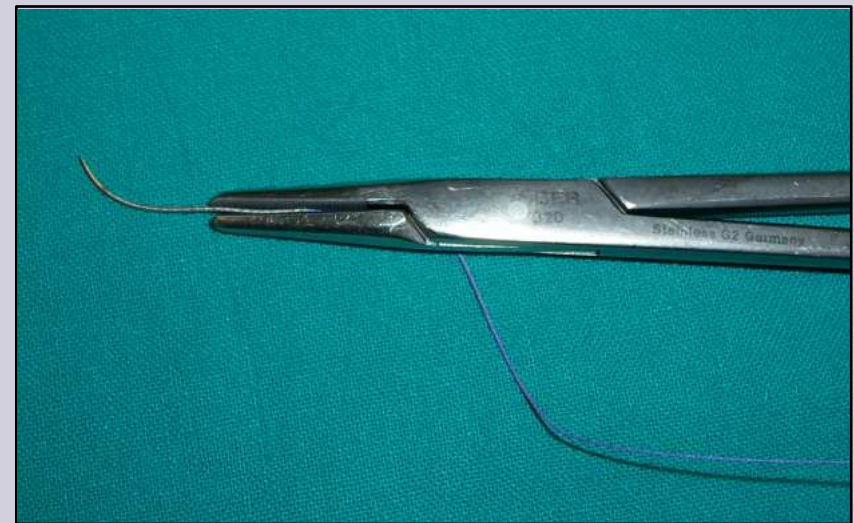
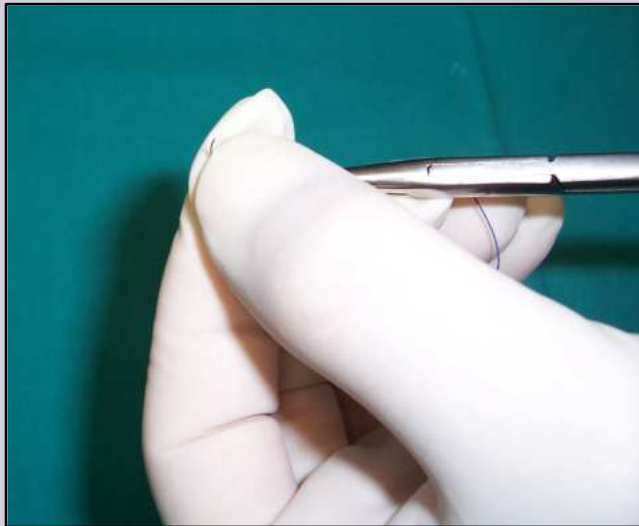
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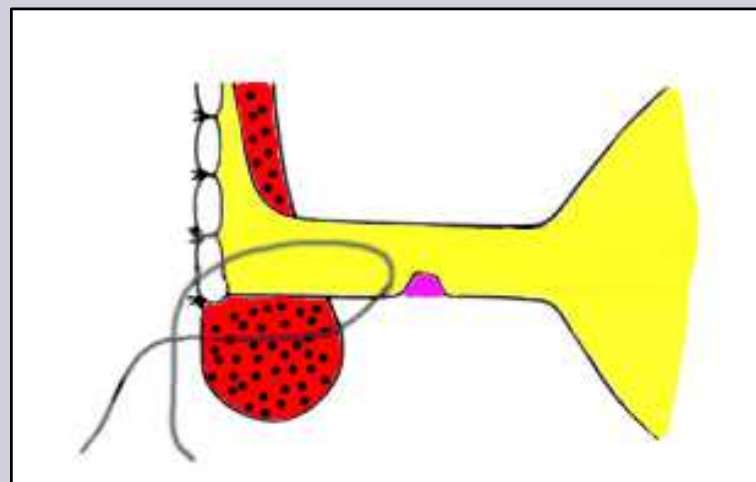
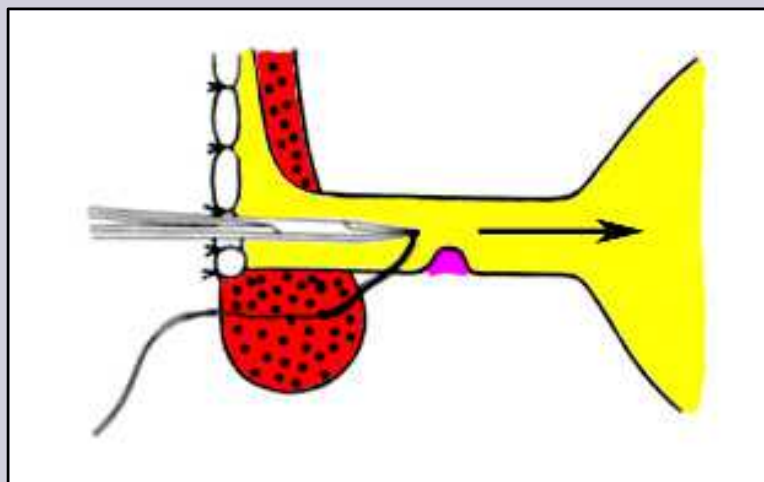
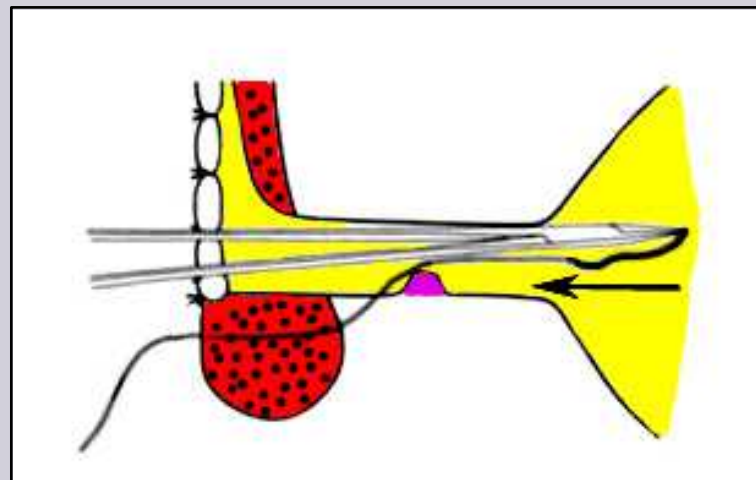
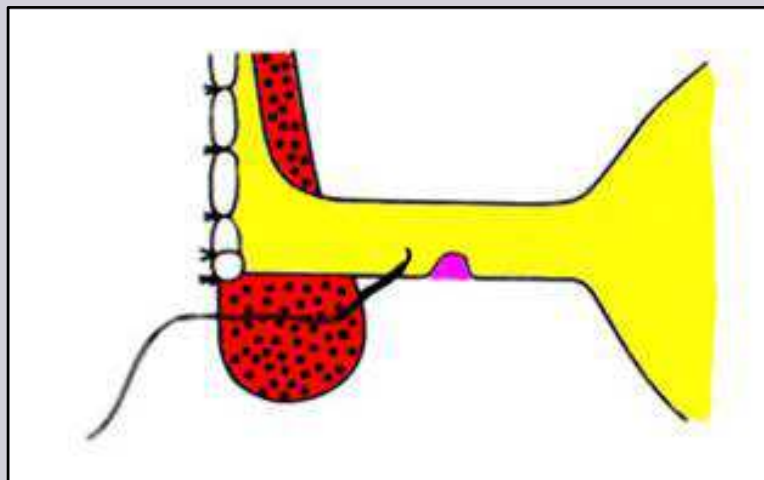
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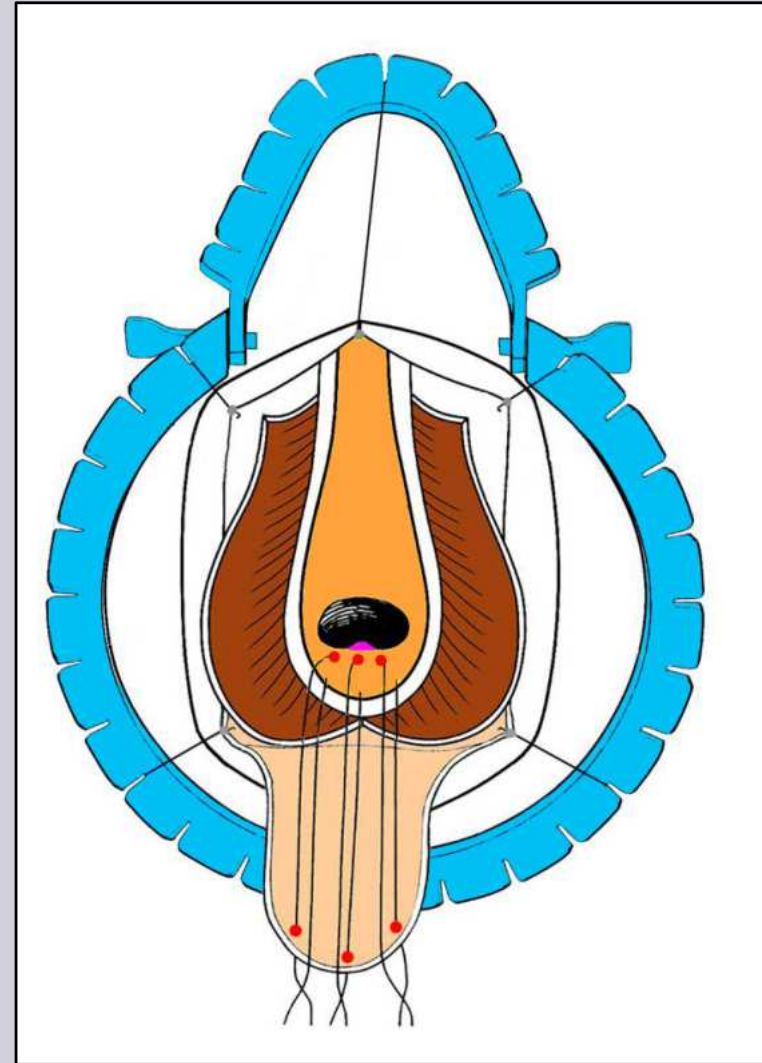
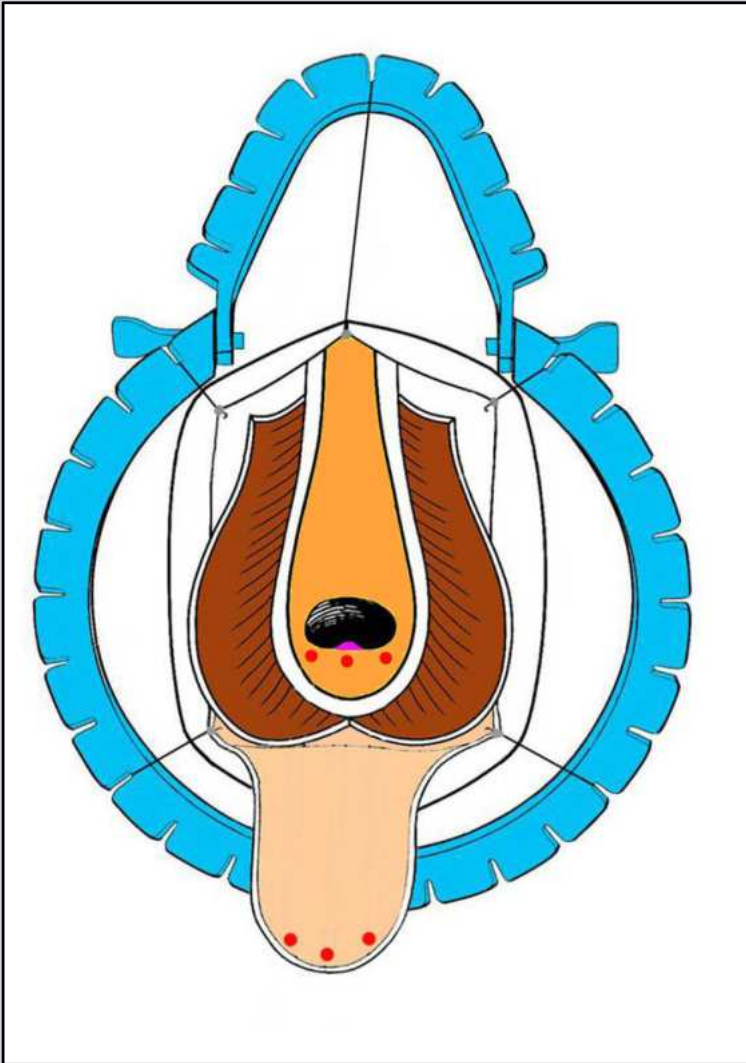
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Webster's technique



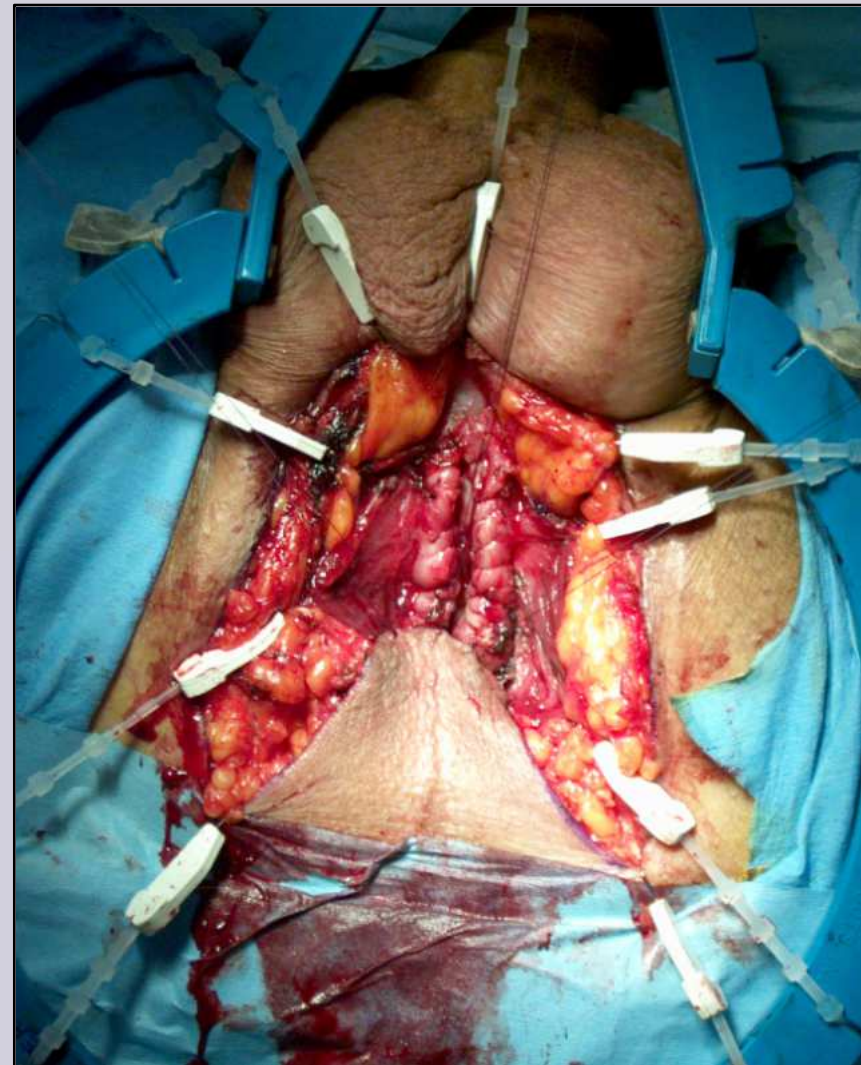
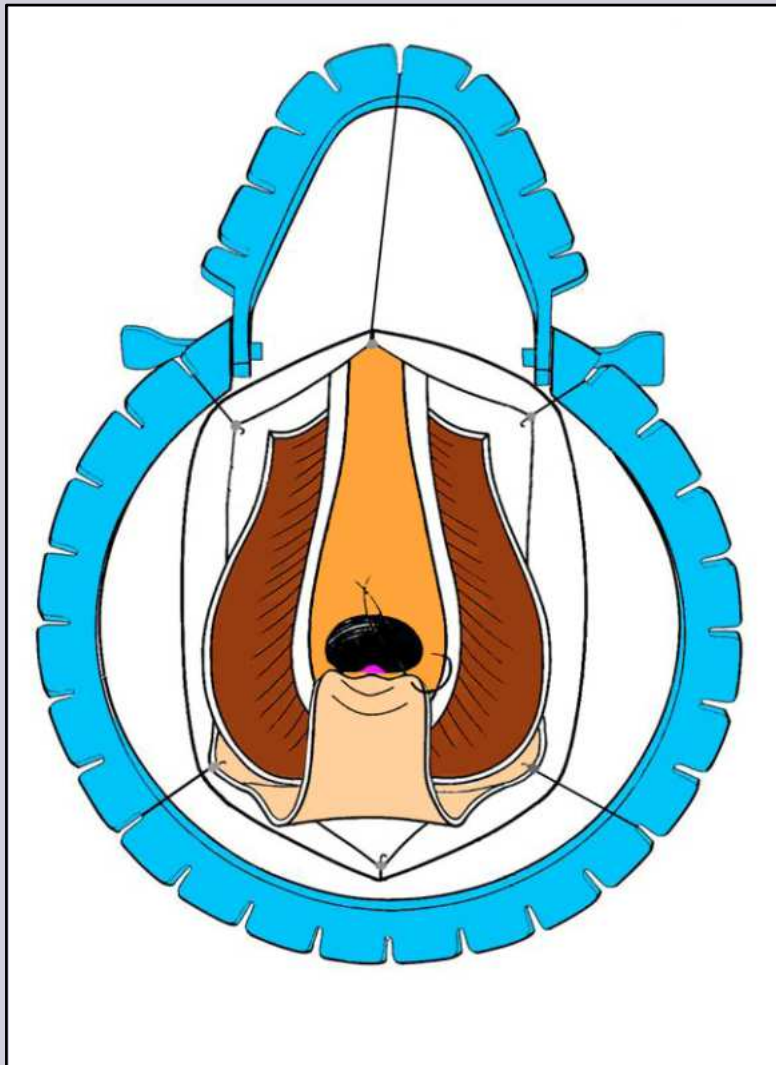
Webster's technique





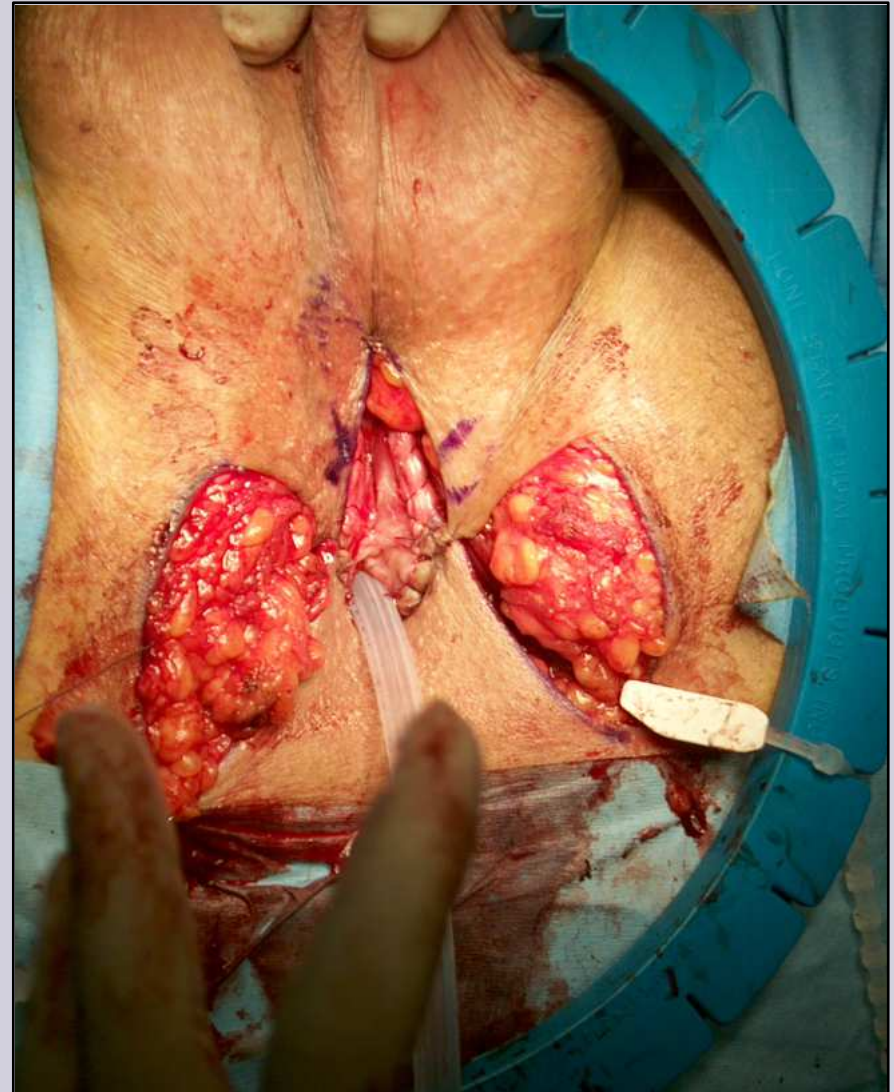
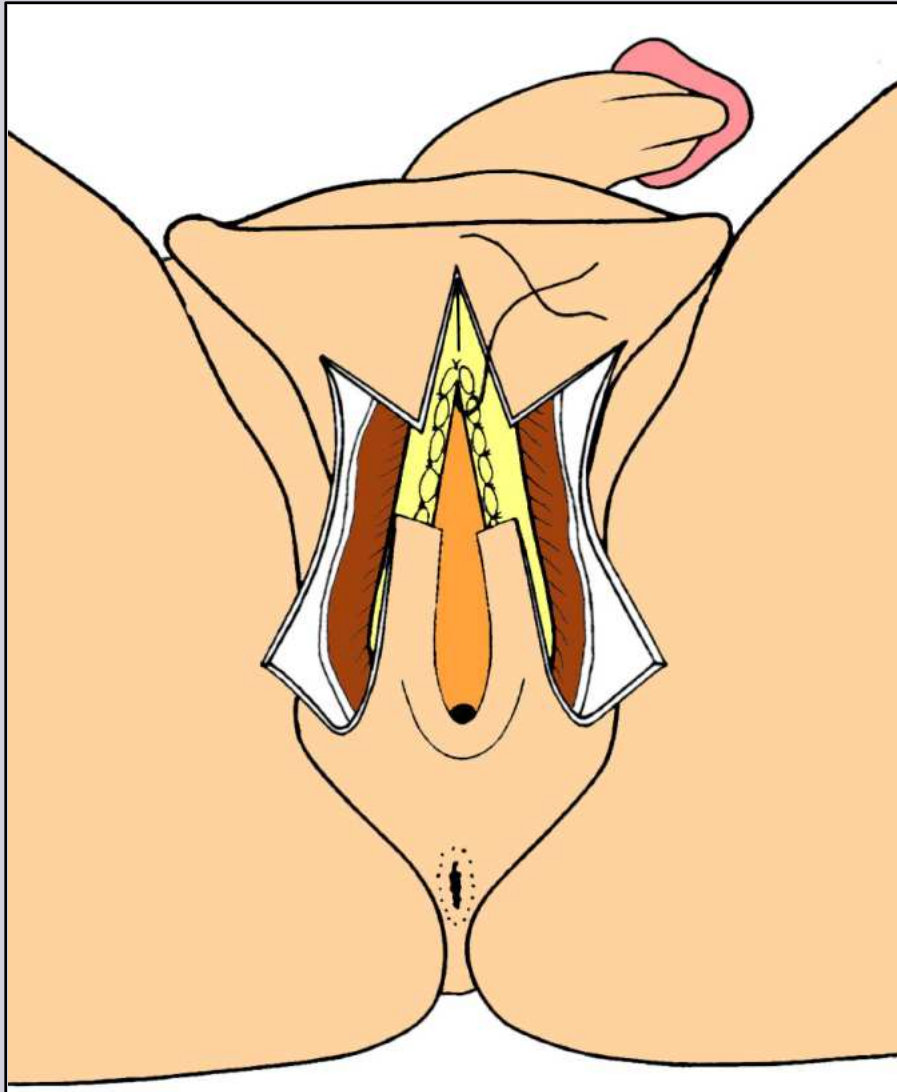
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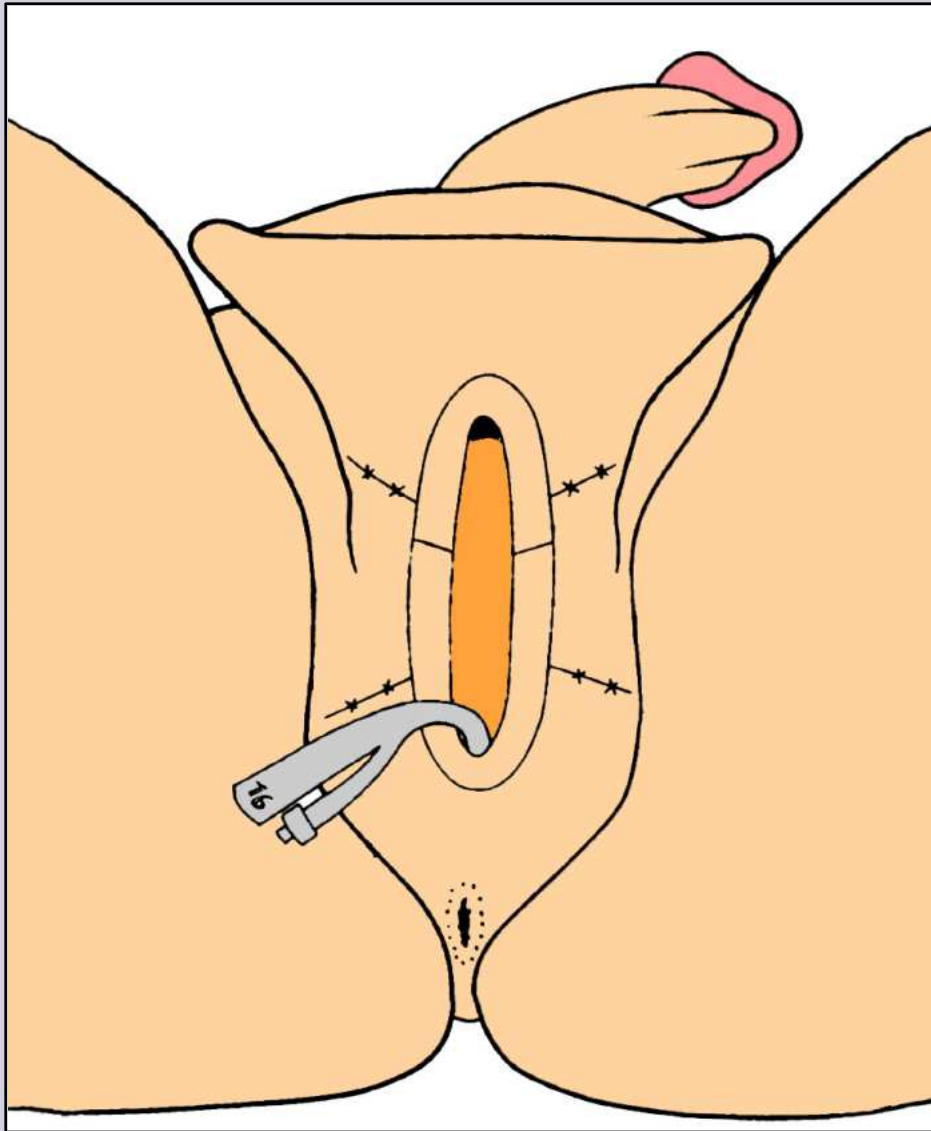
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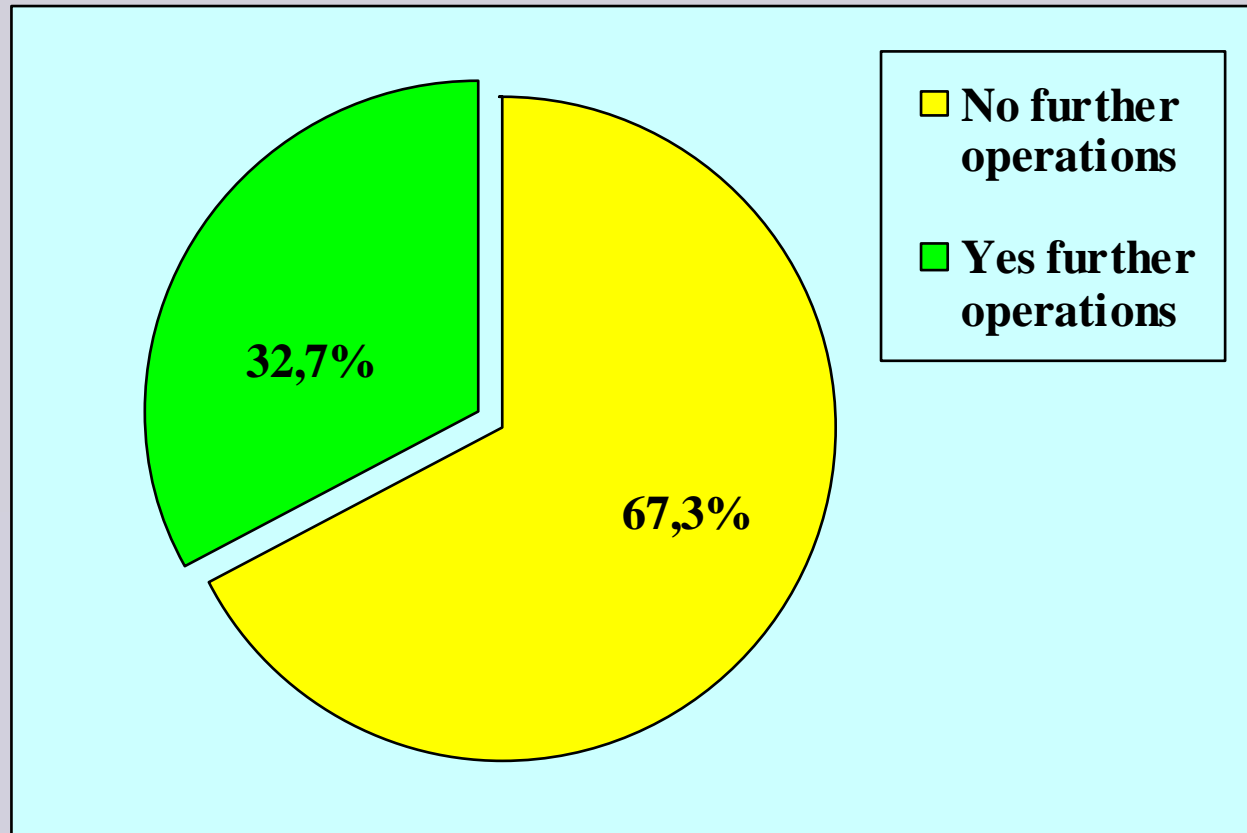
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Lichen sclerosus: panurethral stricture



57 patients – median age 57 years – median follow-up 73 months

Up-to-date: December 31, 2011



ADULT UROLOGY

**HEROIC MEASURES MAY NOT ALWAYS BE JUSTIFIED IN
EXTENSIVE URETHRAL STRICTURE DUE TO LICHEN
SCLEROSUS (BALANITIS XEROTICA OBLITERANS)**

ANDREW C. PETERSON, ENZO PALMINTERI, MASSIMO LAZZERI, GIORGIO GUANZONI,
GUIDO BARBAGLI, AND GEORGE D. WEBSTER

Urology 2004; 64: 565-586

e-mail: info@urethralcenter.it

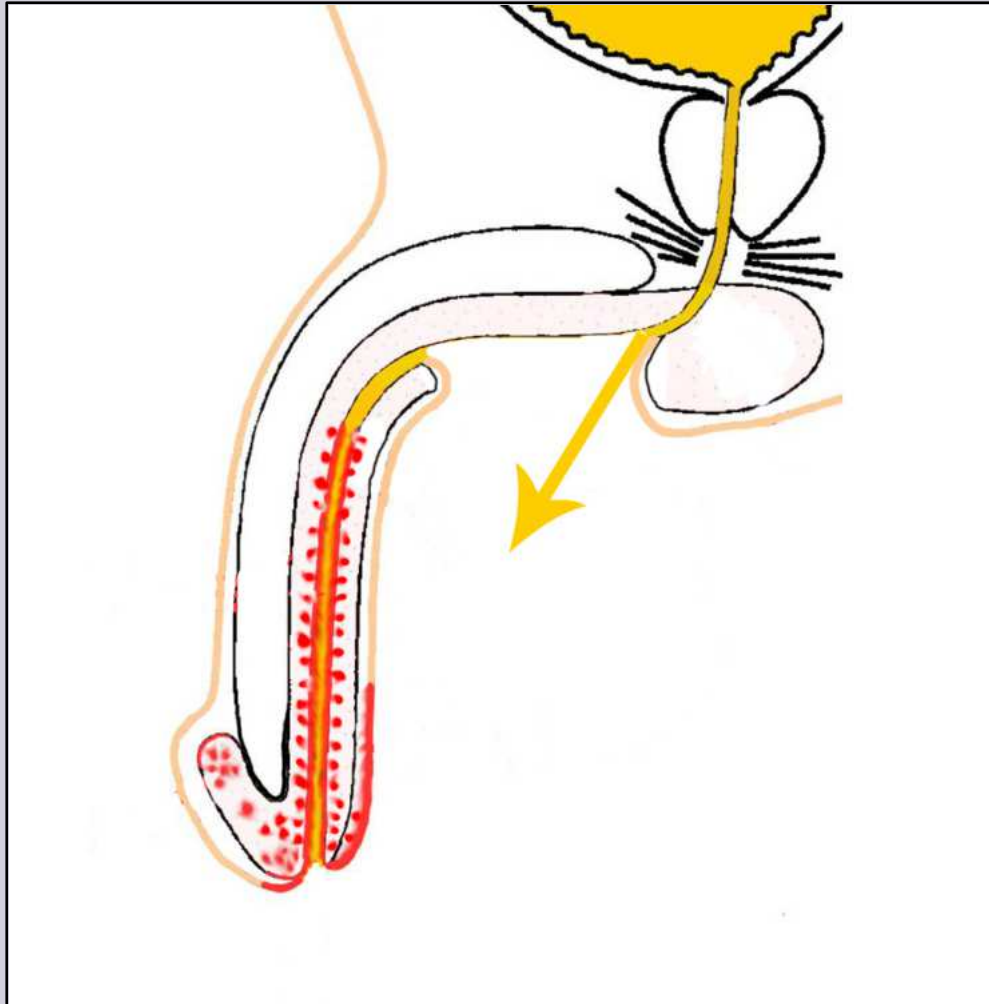
Websites: www.uretra.it
www.urethralcenter.it

Definitive perineal urethrostomy is a reasonable alternative in selected populations

- ❖ low morbidity
- ❖ quick recovery
- ❖ satisfies quality of life
- ❖ acceptance of seated voiding
- ❖ diverts urine from diseased tissue

Urology 2004; 64: 565-586

Perineal urethrostomy diverts urine from diseased tissues



One-stage or multi-stage repair ?



	one-stage repair	multi-stage repair
age	young	old
clinical history	primary repair	previous failed repair
clinical status	decreased urinary flow	<ul style="list-style-type: none"> • urinary retention • UTI • catheter or suprapubic tube in place
histology	<ul style="list-style-type: none"> • slight or moderate disease • no pre-cancerous lesions 	<ul style="list-style-type: none"> • severe disease • pre-cancerous changes
disease extension	focal involvement of the glans, meatus, penile skin	full involvement of the glans, meatus, penile skin
urethral plate	viable or salvageable	scarred with focally dense segment

Conclusions

Lichen sclerosis is a devastating disease and the patient must be informed on the likely causes, the course of the disease and the possible association with cancer. Moreover, the patient must be informed that complex and multiple surgical procedures will be necessary to restore urinary function, sexual activity and aesthetic appearance of the genitalia

I showed you what lichen sclerosis is and what stenosis is in a patient affected with genital lichen sclerosis and the current surgical techniques suggested for repair

What approach to take will be decided by you, your experience, your surgical background and your patient's expectation

There is nothing more I can tell you !



WORKSHOP REGISTRATION

Registration Fee Before 1 August € 300,00

After 1 August € 400,00

Residents € 50,00

Registration fee includes official dinner, lunches and coffee/tea break

PAYMENT METHOD: Bank Transfer to DAFNE SRL

Banco di Napoli - Agenzia di Sidierno (RC)

89048 Sidierno (RC) - Italia

IBAN: IT 7900101081591100000004778

BIC: IBSIPITNA316

Official language: English



Failed Hypospadias Repair

esgurs



WEDON REGISTRATION

Registration Fee Before 1 August € 150,00

Residents € 50,00

Registration includes live surgeries and all presentations

by internet connection

For more information: <http://www.wedonuretra.it>

PAYMENT METHOD: Bank Transfer to DAFNE SRL

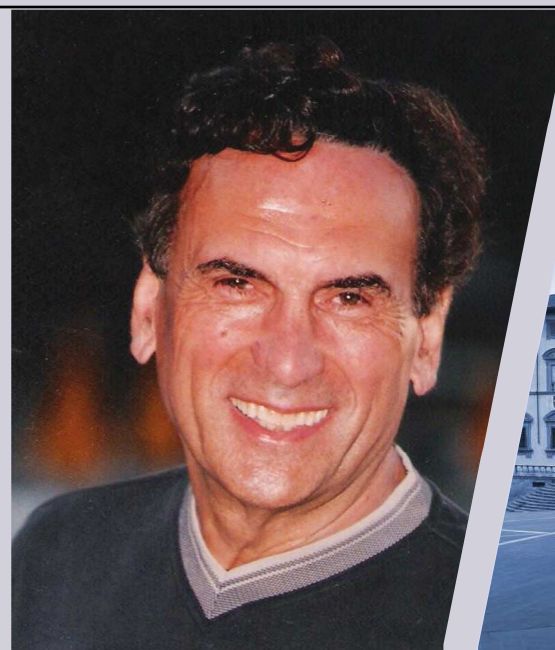
Banco di Napoli - Agenzia di Sidierno (RC)

89048 Sidierno (RC) - Italia

IBAN: IT 7900101081591100000004778

BIC: IBSIPITNA316

Official language: English



Please submit your Abstract (in English) at:

e-mail: salvatore.sansalone@univ.it

Deadline for Abstract submission:

August 20, 2012

Scientific secretary:

G. Barbagli, U. Djindovic,

G. Romano, S. Sansalone

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Sava Perovic Memorial

September 14 -15, 2012

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Arezzo, Italy

2nd Conference on Failed Hypospadias Repair
Live Surgery

4th Surgical Workshop of CUGRS
(Complex Uro-Genital Reconstructive Urethral Surgery)

Organizing Committee:

Center for Reconstructive Urethral Surgery - Sava Perovic Foundation

e-mail: info@urethralcenter.it

Websites: www.uretra.it
www.urethralcenter.it



Register now !

www.webon.uretra.it

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www.uretra.it



Next month, this lecture will be fully available on our website

Thank you !