

# Failed hypospadias repair as etiological factor in male urethral stricture disease

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## Failed hypospadias repair

### ➤ Meatal stenosis – urethral stricture

- Major causes of failed hypospadias repair
- Incidence (1-30%):
  - Severity of hypospadias
  - Technique
  - Duration of follow-up

Complication	No. of patients	%
Urethral stricture	34	56.6
Residual hypospadias	26	43.3
Fistula	18	30
Meatal stenosis	11	18.3
Penile curvature	9	15
Hair	4	6.6
Diverticula	2	3.3
Stone	1	1.6

## Etiology of male urethral stricture disease

➔ **Every process → urethral trauma**

- Hypospadias surgery

➔ **Not well studied**

- ∞ papers about stricture treatment

Failed hypospadias repair?

TABLE III. *Meta-analysis of anterior urethral stricture etiology*

Investigator	Stricture (n)	Cause (n)			
		Idiopathic	Iatrogenic	Inflammatory	Traumatic
Wessells and McAninch <sup>2</sup>	40	5	12	13	10
Wessells <i>et al.</i> <sup>3</sup>	25	0	11	9	5
Andrich and Mundy <sup>4</sup>	83	35	38	7	1
Santucci <i>et al.</i> <sup>5*</sup>	168	64	24	12	68
Elliott <i>et al.</i> <sup>6</sup>	60	37	9	7	7
Andrich <i>et al.</i> <sup>7</sup>	162	38	84	23	17
Present study	194	65	63	38	28
Total (%)	732	244 (33)	241 (33)	109 (15)	136 (19)

\* Included only bulbar strictures.

## Failed hypospadias repair and workload urethral surgeon

- ➔ **More specific information on stricture etiology**
- ➔ **2001-2007: 268 males treated with urethroplasty**
- ➔ **Subanalysis:**
  - Patient's age
  - Stricture location
- ➔ **Impact of failed hypospadias repair on stricture etiology**

## Patient's characteristics

### ➤ Mean age: 47.7 years (range 1-85y.)

- ≥45 y.: 150 (56%)
- <45 y.: 118 (44%)

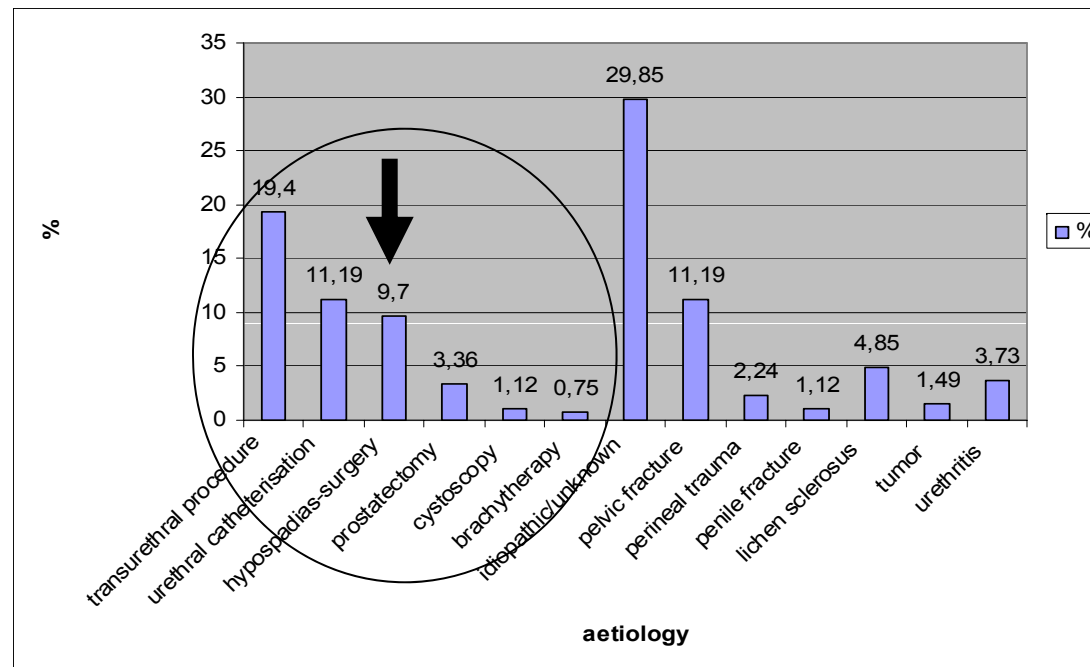
### ➤ Stricture location:

- Penile 22.8%
- Bulbar 48.1%
- Panurethral/multifocal 13.4%
- Posterior 14.9%

### ➤ BIAS!

- Referral center for hypospadias and urethral surgery (BENELUX)
- overestimation of complex strictures (incl. failed hypospadias repair)?

## Failed hypospadias repair and overall stricture etiology (n=268)



## Failed hypospadias repair and overall stricture etiology: other reports?

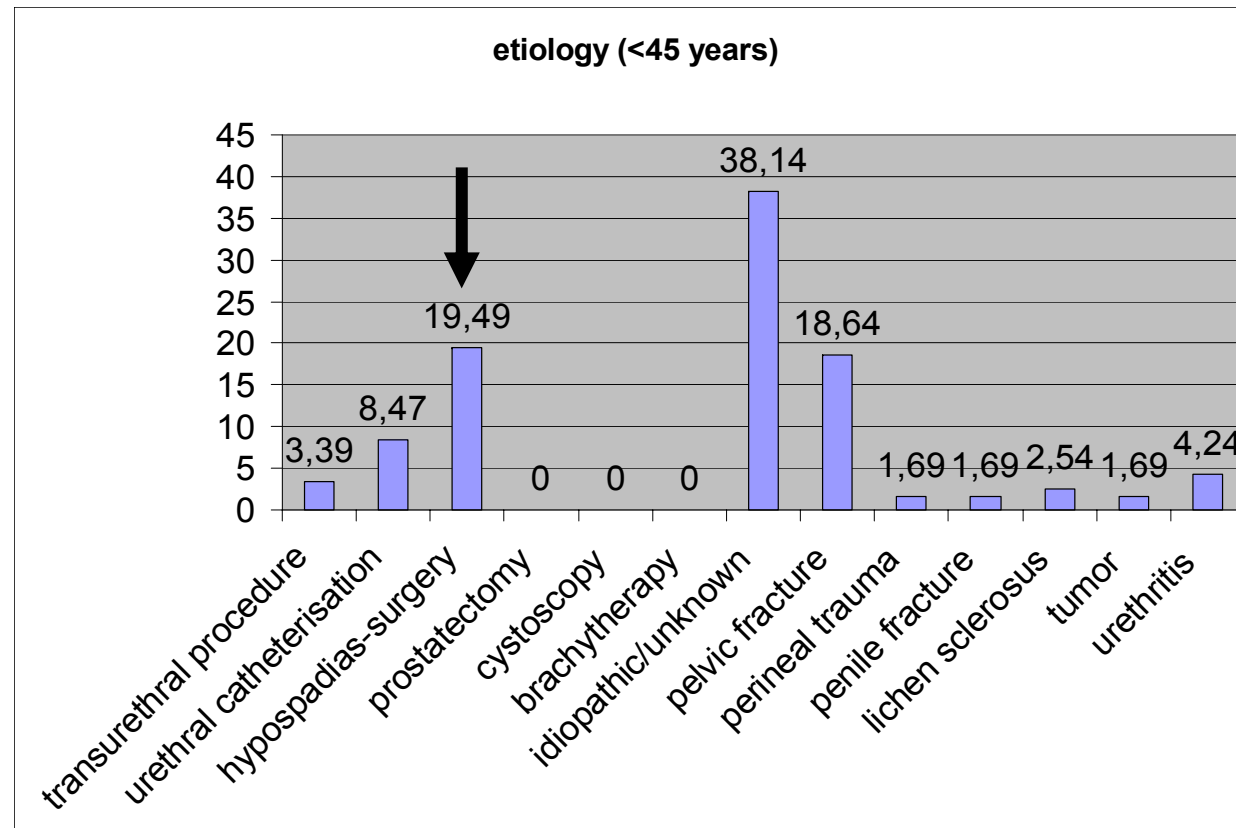
➔ **Fenton A. et al, *Urology* 2005:**

- 4/175 patients (2.3%)

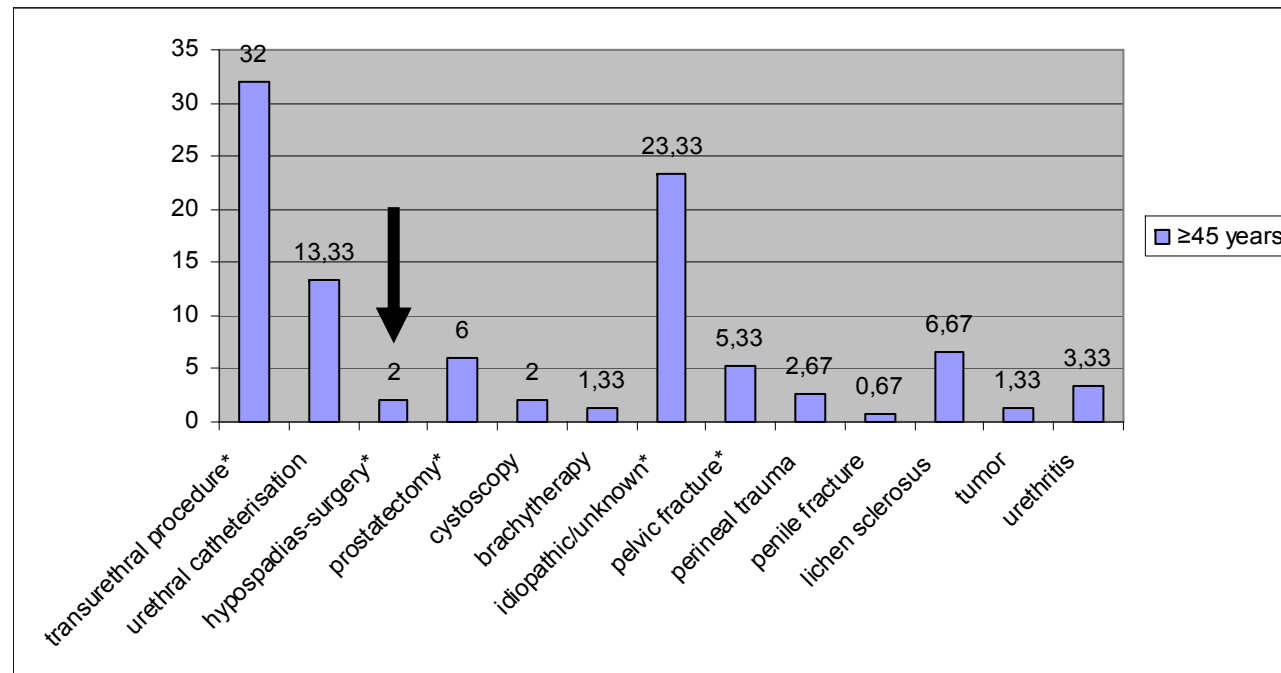
➔ **Barbagli G. et al, *J Urol* 2010:**

- 223/1510 patients (14.7%)
- BIAS: referral center for failed hypospadias repair?

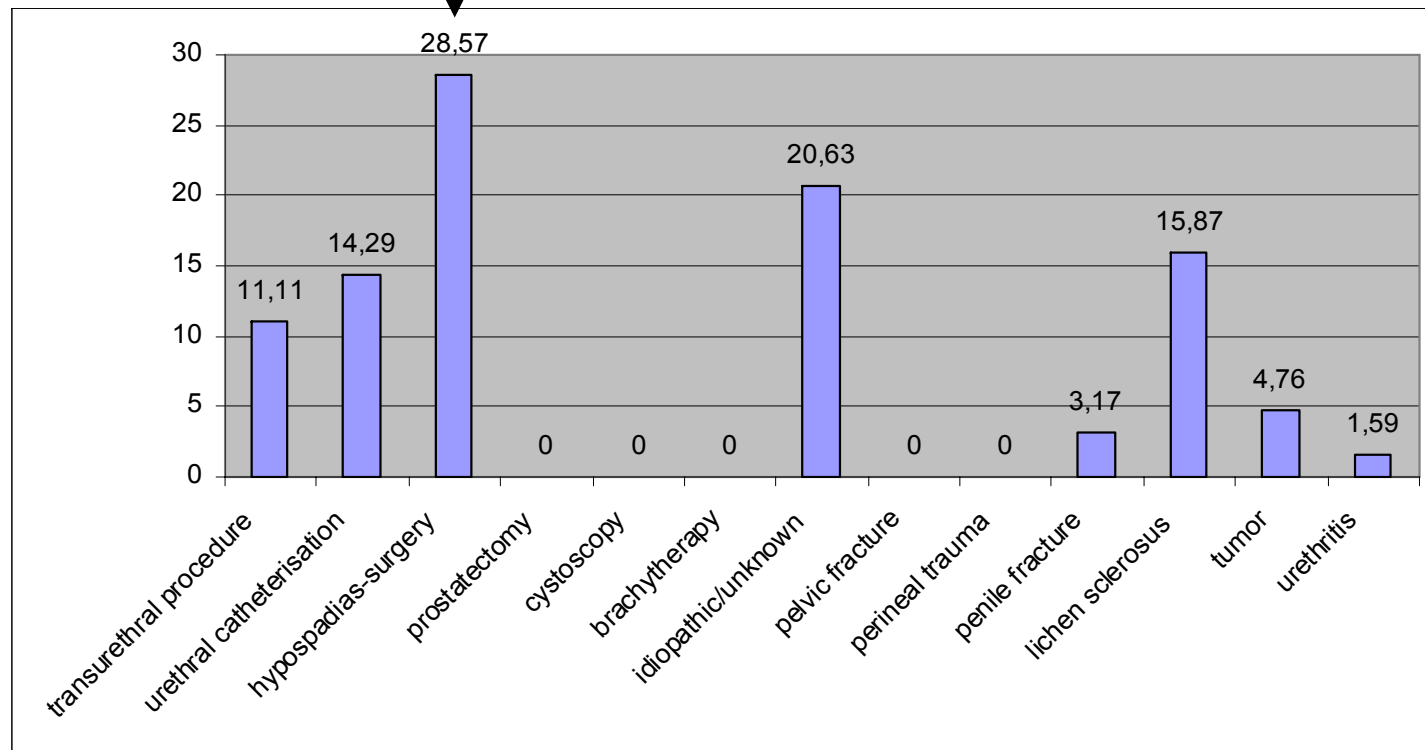
## Failed hypospadias repair and etiology in young patients (<45y., n=118)



## And in the older patients??? ( $\geq 45$ y., n=150)



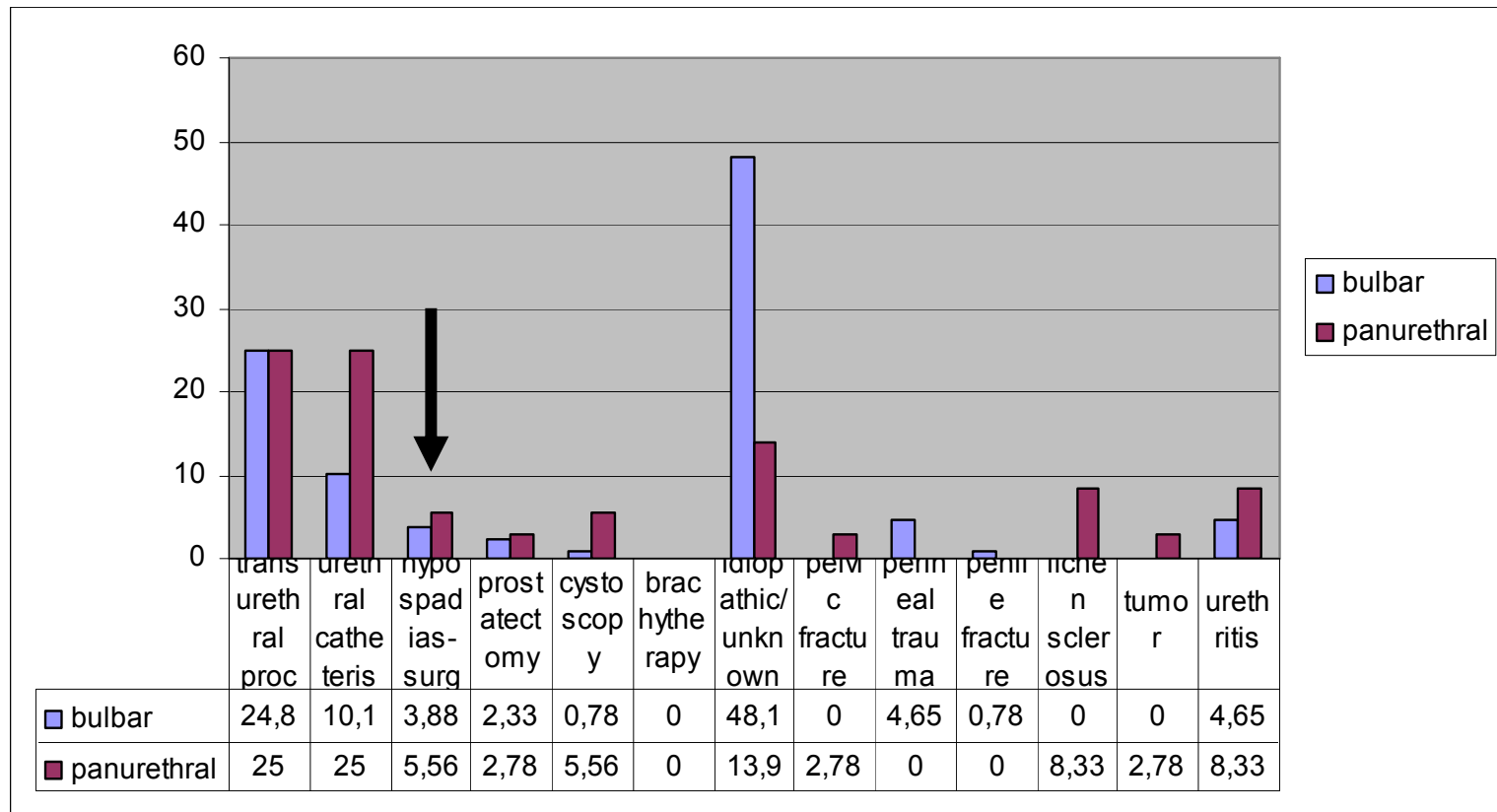
## Failed hypospadias repair and etiology in penile urethra



## Failed hypospadias repair and etiology in penile urethra: other reports

- ➔ **Fenton A. et al, *Urology* 2005:**
  - 3/59 patients (5%)
  
- ➔ **Barbagli G. et al, *J Urol* 2010:**
  - 223/437 patients (51%)

## Failed hypospadias repair and other stricture locations



## Failed hypospadias repair and other stricture locations

- **Mundy A. et al. (Eur Urol 2006):**
  - 20% bulbar strictures
- **Lumen N. et al. (J Pediatr Urol 2010, in press):**
  - 24% bulbar strictures
  - 4% panurethral strictures
- **Cause?**
  - Scrotal or penoscrotal hypospadias
  - Former urethral instrumentations/calibration
  - Post-operative urethral catheter
  - Perineostomy
  - Coincident idiopathic bulbar stricture

## Conclusions

- **Important impact on the work-load of the urethral surgeon**
- **Important etiological factor in younger patients**
- **Most important cause of penile strictures**

# Thank You

## Questions?

