One-stage bulbar urethroplasty: retrospective outcome analysis in a series of 375 patients

G. Barbagli – Arezzo
G. Guazzoni – Milan
M. Lazzeri – Florence

Italy

Objective

We retrospectively reviewed the charts of 375 patients who underwent bulbar urethroplasty using different one-stage techniques

Patients with lichen sclerosus, failed hypospadias repair or strictures involving both penile and bulbar urethra were excluded

Patient population and follow-up

Patients: 375

Mean age: 39 years (range 14 – 80 years)

Mean follow-up: 53 months (range 12 – 218 months)

76% of patients: 14-49 years

65% of strictures: unknown etiology

47% of strictures: < 3 cm in length

Clinical outcome was considered a failure when any postoperative instrumentation was needed, including dilation

Surgical techniques

End-to-end anastomosis : 165 (44%)

Augmented anastomotic repair: 40 (10.6%)
penile skin : 9
oral mucosa 31

Onlay graft procedures: 170 (45.3%)
penile skin : 38
oral mucosa: 132

Results

surgical techniques	N. patients	substitute material	success rate	mean follow-up months
End-to-end anastomosis	165		90,9%	64
Augmented anastomotic repair	40	oral mucosa or penile skin	60,0%	46
Onlay graft techniques	170	oral mucosa or penile skin	81,8%	56
total	375		83,5%	53

substitute material	N. patients	success rate
skin grafts	28/47	59.6%
oral grafts	135/163	82.8%

Success rate according to the patient age

age	patients		success rate	
	N	%	N	%
14-49 years	285	76.0%	238	83.5%
50-69 years	65	17.3%	52	80.0%
> 70 years	25	6.7%	23	92.0%

Success rate according to the stricture etiology

etiology	patients		success rate	
	N	%	N	%
unknown	245	65.3%	207	84.5%
catheter	52	13.9%	39	75,0%
trauma	38	10.1%	34	89.5%
instrumentation	29	7.8%	25	86.2%
infection	7	1.9%	7	100,0%
radiotherapy	2	0.5%	1	50,0%
congenital	2	0.5%		

Success rate according to the stricture length

length	patients		success rate	
	N	%	N	%
1-2 cm	104	27.7%	96	92.3%
2-3 cm	74	19.7%	65	87.8%
3-4 cm	65	17.3%	47	72.3%
4-5 cm	87	23.2%	70	80.5%
5-6 cm	35	9.4%	27	77.1%
> 6 cm	10	2.7%	8	80,0%

Success rate according to the previous treatment

previous treatment	patients		success rate	
	N	%	N	%
urethrotomy	135	36,0%	115	85.2%
dilation	12	3.2%	9	75,0%
urethroplasty	9	2.4%	8	88.9%
multiple treatments	104	27.7%	79	76,0%
none	115	30.7%	102	88.7%

Success rate according to the surgical technique

Augmented anastomotic repair

surgical technique	N. patients	substitute material	success rate	mean follow-up months
Augmented anastomotic repair	**40**		**60,0%**	**46**
dorsal	24	oral mucosa	79,2%	31
dorsal	9	skin	33,3%	102
ventral	7	oral mucosa	28,6%	32

Success rate according to the surgical technique

Onlay graft techniques

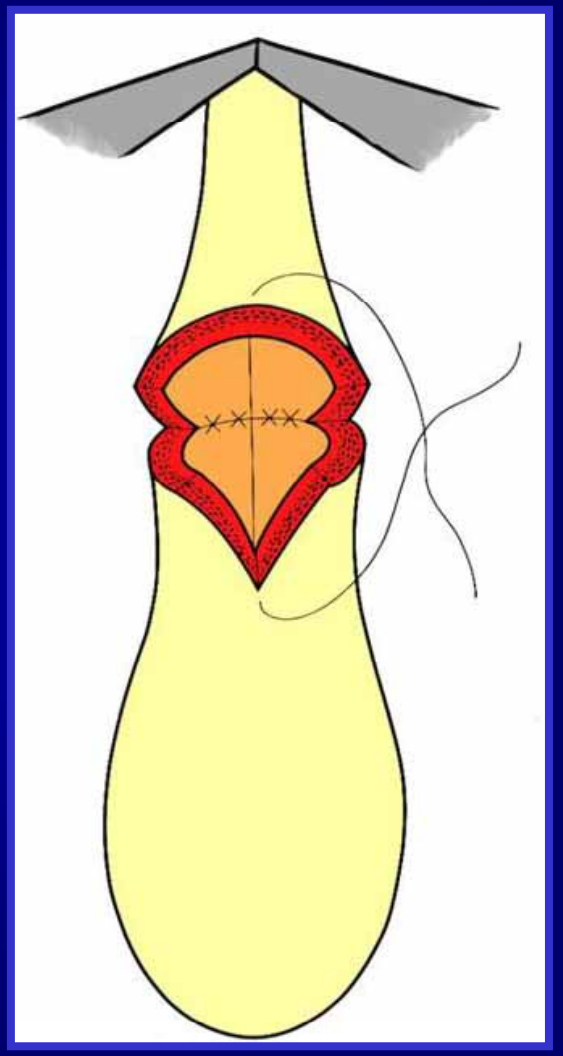
surgical technique	N. patients	substitute material	success rate	mean follow-up months
Onlay graft techniques	**170**		**81,8%**	**56**
ventral	93	oral mucosa	91,4%	36
lateral	6	oral mucosa	83,3%	77
dorsal	22	oral mucosa	77,3%	41
dorsal	38	skin	65,8%	111
circumferential	11	oral mucosa	63,6%	48

Conclusions

Oral mucosa represents the best substitute material for one-stage bulbar urethroplasty

Conclusion

End–to–end anastomosis still represents one of the best technique for repair of bulbar urethra strictures of various etiologies, various lengths, in patients of various ages

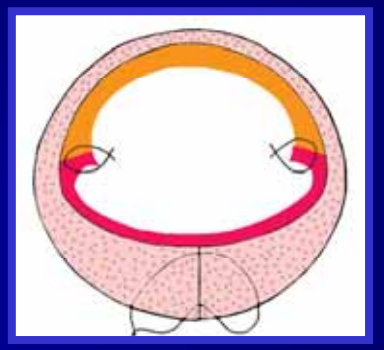


90.9% success rate

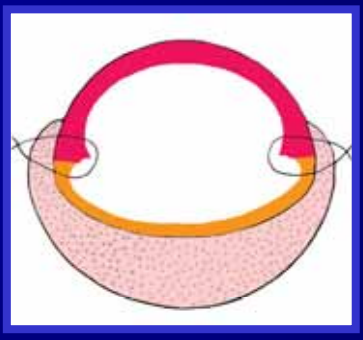
Conclusions

The use of onlay graft techniques represents a valid alternative to end-to-end anastomosis

81.8% success rate



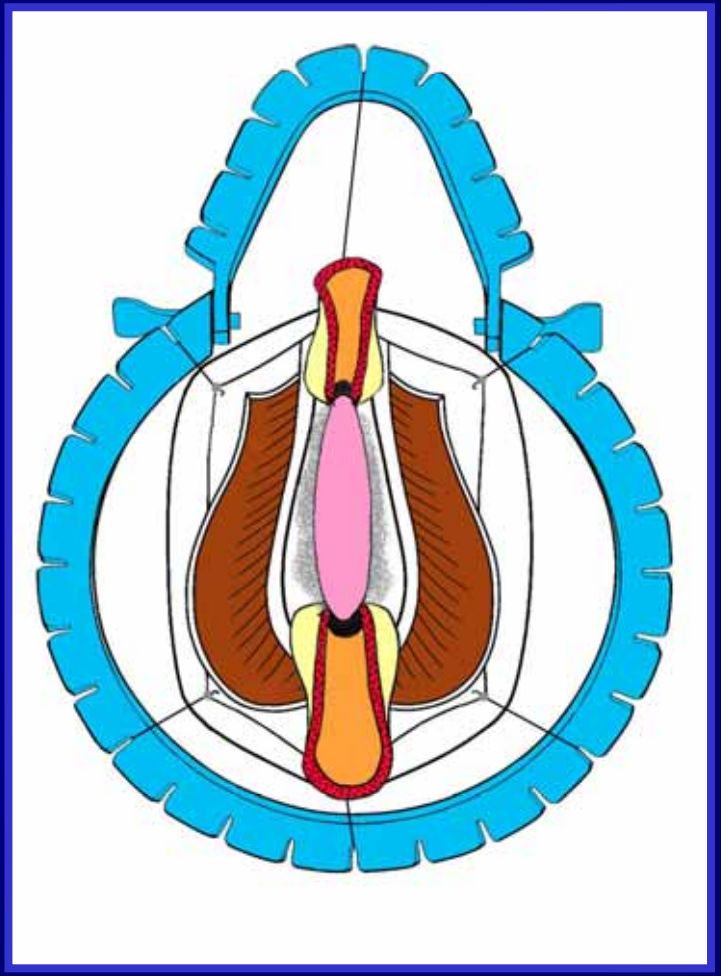
ventral graft



dorsal graft

Conclusion

Augmented anastomotic repair should be reserved for complex or redo cases when end-to-end anastomosis or onlay graft techniques are not appropriate

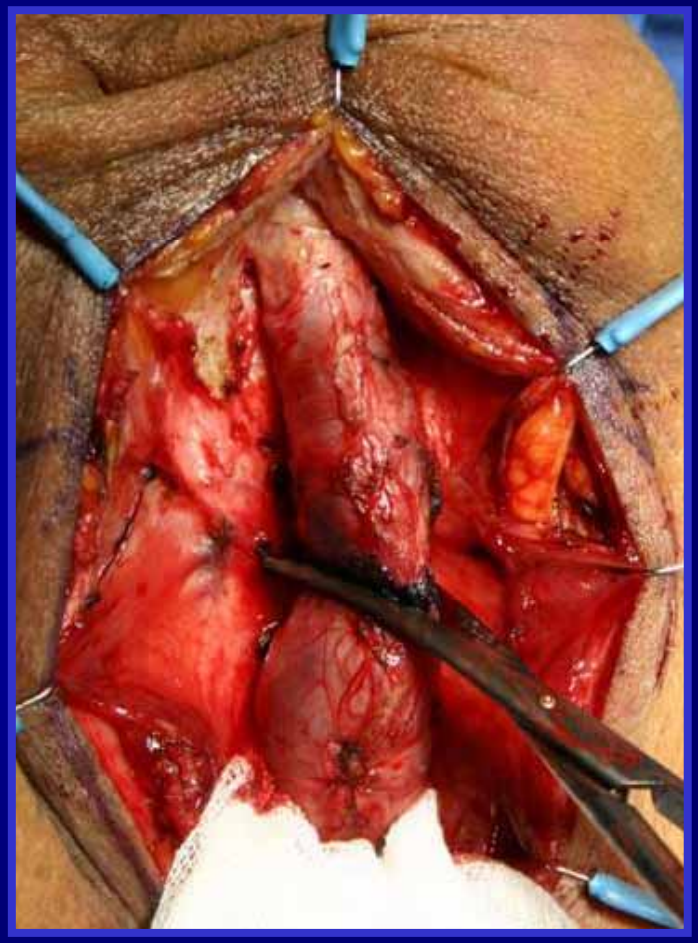


60% success rate

Looking at the future…

Based on these results, is it time to change our approach to bulbar urethral strictures ?

To transect or no transect the urethra ? This is the question !



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