

TRATAMENTO CIRÚRGICO da DOENÇA DE PEYRONIE CORPOROPLASTIA DE ALONGAMENTO

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Clínica Saúde Atlântica – Estádio do Dragão

Surgical Treatment

Gold standard treatment for patients in chronic phase

Indications

Stable disease (> 6 mo with no pain and stable deformity)

Inability to engage in coitus

Severe curvature or penile shortening

Extensive plaque calcification

Patient desire for rapid and reliable results

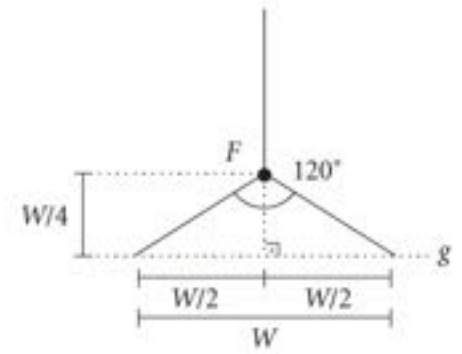
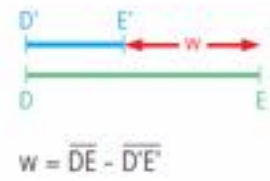
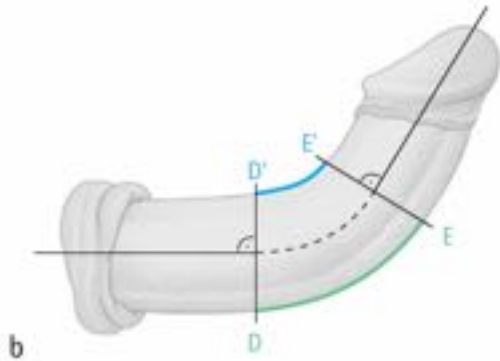
BUT ABSOLUTELY NECESSARY

Detailed preoperative discussion on cause and mechanism of action of PD *and*

Realistic outcomes of the selected surgical procedure (return of function rather than restoration to the pre-PD !)



Corporoplastia de alongamento



Corporoplastia de alongamento



Corporoplastia de alongamento

Situações especiais



Várias curvaturas - vários enxertos



Corporoplastia de encurtamento adicional

Grafts used in Peyronie's disease surgery

Autologous grafts

- Dermis
- Vein grafts
- Tunica albuginea
- Tunica vaginalis
- Temporalis fascia
- Buccal mucosa

Ideal graft material ??

Allografts

- Cadaveric pericardium
- Cadaveric fascia lata
- Cadaveric dura matter
- Cadaveric dermis

Xenografts

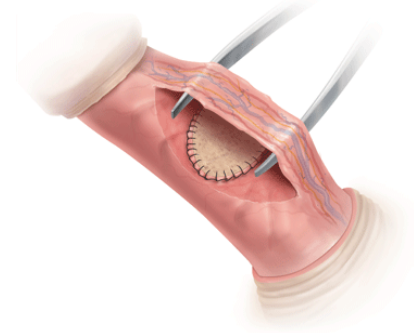
- Porcine small intestinal submucosa
- Bovine pericardium
- Porcine dermis

Synthetic grafts

- Gore-Tex
- Dacron

Graft type	Type of flaps	Author, date	Patients, n	Mean follow-up, months	Surgical outcomes (%)					
					Straightening	Shortening	Postoperative ED	Sensory change	Pain	Satisfaction
Autologous grafts	Rectus sheath	Casati et al., 2006 [40]	12	4 to 10 (range)	100.0	NR	0.0	NR	NR	58.3
	Tunica vaginalis	O'Donnell et al., 1992 [41]	25	42.2	88.0	96.0	48.0	16.0	NR	NR
	Dermal graft	Goyal et al., 2008 [42]	11	6 to 24 (range)	83.8	NR	9.1	18.2	0.0	81.8
	Buccal mucosa	Correia et al., 2009 [43]	25	13.1	100.0	0.0	0.0	0.0	NR	93.3
	Fascia lata graft	Kargi et al., 2004 [44]	12	10	100.0	0.0	0.0	NR	NR	100.0
	Venous patch graft	El-Sakka et al., 1998 [45]	112	18	96.0	170	12.0	10.0	6.2	92.0
Allografts	Pericardium	Chun et al., 2001 [46]	9	6	55.5	NR	11.0	0.0	NR	88.9
	Tanoplast [®] human pericardial grafting	Taylor et al., 2008 [18]	41	58	91.0 ^a	33.0	32.0	31.0	NR	75.0
	Fascia lata Tanoplast [®] graft	Kabu et al., 2006 [47]	14	31	79.0	28.8	7.1	7.1	NR	95.0
Xenografts	Four-layer Stratus [®] grafts	Kovac et al., 2007 [48]	13	7.8	76.9	46.0	23.0	23.0	NR	84.6
	Porcine four-layer SIS	Lee et al., 2008 [49]	13	14 (median)	100.0 ^a	NR	14.0	NR	NR	NR
	Porcine four-layer SIS	Knoll et al., 2007 [50]	162	38	91.0	3.0	21.0	17.0	0.0	NR
	Porcine one-layer SIS	Breyer et al., 2007 [51]	19	15	63.0	63.0	53.0	NR	26.0	Score of 2.7 out of 5.0
	Bovine pericardium graft	Egydio et al., 2002 [52]	33	19.5	87.0	NR	0.0	NR	NR	NR
	TachoS [®]	Hortsmann et al., 2011 [28]	43	63.0	41.0	40.0	9.0	7.0 (severe), 36.0 (moderate)	7.0	20.0
Synthetic grafts	Polyethylene terephthalate mesh reinforced silicone sheet patch graft	Licht et al., 1997 [53]	28	22	61.0	30.0	14.0	14.0	NR	30.0

Saphenous vein vs SIS®



Advantages:

- Establishing blood supply from the lumen of corpus cavernosum
- NO prevents hematoma formation.
- Experimentally demonstrated that TA reforms over the vein patch site.
- Acceptable long-term outcome.
- Extended experience in centers of excellence
- No additional cost



Disadvantages:

- Morbidity of vein harvesting
- Complex suturing
- Time consuming
- Future bypass surgery ?

Advantages:

- No second incision needed
- Easy to use
- Rapid integration in the tissues
- Acceptable medium-term outcome.
- Extended experience in centers of excellence

Disadvantages:

- Costs
- De novo ED – controversial !

Post Grafting ED Predictors

Age > 55

Graft size

Curvature degree

Preoperative EF

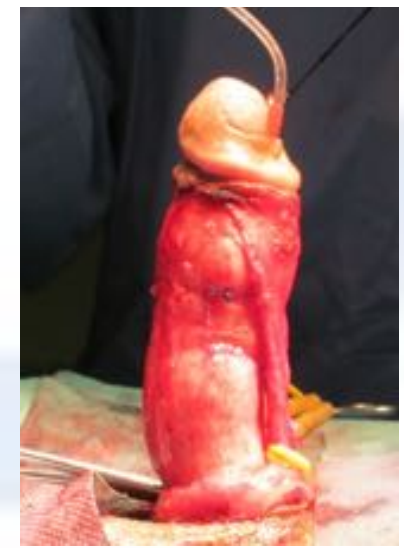
Arterial dysfunction

Cavernosal dysfunction

Comorbidities (DM)

Operation technique

H vs Egydio



Outcome of Surgical Treatments

	Tunical shortening procedures		Tunical lengthening procedures
	Nesbit	Plication	Grafts
Penile shortening	4.7-30.8%	41-90%	0-40%
Penile straightening	79-100%	58-100%	74-100%
Persistent or recurrent curvature	4-26.9%	7.7-10.6%	0-16.7%
Post-operative erectile dysfunction	0-13%	0-22.9%	0-15%
Penile hypoesthesia	2-21%	0-21.4%	0-16.7%
Technical modifications	1	At least 3	Many types of grafts and techniques used

Postoperative care

Massage and stretch therapy 2 weeks after the surgery and performed twice a day for 4 weeks

Bedtime PDE-5 inhibitors begin 7-10 days after surgery and maintained for 6 weeks

External penile traction therapy is initiated 2-3 weeks after surgery and performed on a daily basis for a minimum of 2-8 hours for 3 months



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PARTICIPANTS AND METHODS

February 2011

December 2014

28

Hospital de São João, Oporto, Portugal

Preoperative and operative reports

Postoperative clinic visits and interviews

Stabilized disease for over 6 months

$\geq 60^\circ$ of curvature

2 patients had preoperative moderate arterial ED

RESULTS

Patient characteristics

Table 1 Demographics

Clinical Variables	No. of patients (%)
Total number	28
Mean age \pm SD (years)	57,8 \pm 6
Mean duration of disease until surgery \pm SD (months)	24 \pm 15
Mean BMI \pm SD (Kg/m ²)	26,6 \pm 4
ASA score	
I	4 (14)
II	22 (79)
III	2 (7)
Hypertension	15 (53,6)
Dyslipidemia	13 (46,4)
Type 2 Diabetes	8 (28,6)
Smoking habits	6 (21,4)
Dupuytren's contracture	8 (28,6)
Past penile trauma	3 (10,7)
Anti-depressive treatment	5 (17,9)

BMI, Body Mass Index; ASA score, American Society of Anesthesiologists Score; SD, standard deviation

RESULTS

Preoperative findings

Table 2 Preoperative findings and disease characteristics

Clinical Variables	No. of patients (%)
First perceived symptom	
curvature	18 (64,3)
pain	6 (21)
plaque or induration	4 (14,3)
Penile length (mean \pm SD) (cm)	12,5 \pm 1,7
Curvature (mean \pm SD) ($^{\circ}$)	80,1 \pm 14,9
Characteristics of curvature	
dorsal	28 (100)
no secondary curve present	19 (67,9)
left	7 (25)
right	2 (7,1)
Hourglass deformity	7 (25)
Predominant location of the plaque	
dorsal	28 (100)
ventral	0 (0)
left lateral	0 (0)
right lateral	0 (0)
Plaque location along the shaft	
proximal third	7 (25)
midshaft	12 (42,9)
distal third	9 (32,1)
Fibrotic cord	14 (50)

SD, standard deviation

Two patients had been submitted to previous reconstructive surgery

RESULTS

Surgical outcomes

Table 3 Surgical outcomes	Clinical Variables	No. of patients (%)
	Surgical time (mean \pm SD) (min)	151 \pm 23
	Plaque incision	26 (92,8)
	Plaque excision	2 (7,2)
	Graft area (mean \pm SD) (cm ²)	16,2 \pm 7
	Concomitant plication procedure	9 (32,1)
	Surgical complications (infected hematoma)	1 (3,6)

SD, standard deviation

RESULTS

Postoperative outcomes

Table 4 Postoperative outcomes

Clinical Variables	No. of patients (%)
Follow-up (mean \pm SD) (months) (range)	18 \pm 10,7 (3 – 36)
Curvature after surgery	
fully corrected	23 (82,1)
improved (minimal residual defect)	5 (17,9)
no alteration	0 (0)
worse	0 (0)
Transient penile hypoesthesia	5 (17,9)
Patient perception of palpable nodule	6 (21)
Patient perception on penile length	
shorter than before surgery	20 (71,4)
same length	7 (25)
longer than before surgery	1 (3,6)
Post-operative penile length measured under stretchement	
shorter than before surgery	4 (14,3)
same length or increased	24 (85,7)

RESULTS

Sexual function after surgery

Table 5 Sexual function after surgery

Clinical Variables	No. of patients (%)
Perceived penile rigidity in comparison to before surgery	
improved	4 (14,3)
remained the same	15 (53,6)
decreased	9 (32,1)
ED according to IIEF-5	
no ED	18 (64,2)
mild ED	3 (10,7)
mild-moderate ED	2 (7,1)
moderate ED	2 (7,1)
severe ED	3 (10,7)
Response to ED medication	
normal EF with no need for medication	18 (64,2)
normal EF with medication	6 (21,4)
ED despite medication	4 (14,3)
Global satisfaction concerning sexual activity after surgery	
higher	18 (64,7)
same	5 (17,9)
lower	5 (17,5)

IIEF-5, International Index of Erectile Function; ED, Erectile Dysfunction; EF, Erectile Function; PDDU, penile duplex doppler ultrasound

RESULTS

Sexual function after surgery

Two patients had already ED with arterial dysfunction prior to surgery- de novo ED 7%.

Post-operative PDDU was performed on all patients with ED despite treatment, and none, including those with previous arterial insufficiency, showed objective arterial or venous dysfunction.

These data suggest that no vasculogenic etiology of ED seems to be present, and that other causes should be considered.

RESULTS

Patient satisfaction

Table 6 Patient satisfaction

Clinical Variables	No. of patients (%)
Global satisfaction with surgical outcome	
very satisfied	5 (39,3)
satisfied	12 (42,9)
mildly satisfied	4 (14,3)
unpleased	1 (3,6)
Meeting of expectations towards surgery	
fully achieved	22 (78,5)
moderately achieved	3 (10,7)
mildely achieved	3(10,7)
unachieved	0 (0)
Willingness to repeat procedure	
yes	22 (78,6)
no	6 (21,4)
Willingness to recommend procedure	
yes	22 (78,6)
no	6 (21,4)



José Paulo Andrade