Peyronie’s Disease

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Brad Figler MD
Department of Urology
University of North Carolina-Chapel Hill
OUTLINE

• Introduction

• Presentation and natural history

• History & physical exam

• Management – active phase

• Management – stable phase
INTRODUCTION

• Inelastic scar of the tunica albuginea secondary to trauma

• Prevalence: 3.2 to 8.9%

• Palpable scar

• Pain (secondary to inflammation)

• Erectile deformities:
  - Curvature
  - Shortening
  - Narrowing
  - Hinge effect
PRESENTATION AND NATURAL HISTORY

• Curvature
  - Improves in 12%; worse in 48%
  - Usually stabilizes by 12 months

• Narrowing: 12%

• Unable to have intercourse: 22%

• Loss of penile length: 84% over 18 months (mean 2cm)

DIAGNOSIS

• History
  - Curvature/narrowing/hinge
  - Change in deformity
  - Pain
  - Presence of ED
  - Loss of length
  - “What’s your goal?”

• Physical Exam
  - Stretched penile length
  - Plaques – location, size, tenderness

• Assess erectile deformity
  - When considering treatment
  - Most helpful in stable phase
ASSESS ERECTILE DEFORMITY

- Intracavernosal injection
  - Measure curvature
  - Evaluate for narrowing, hinge, distal flaccidity
  - Evaluate erectile function

- Ultrasound
  - Characterize plaque
  - Other penile lesions

- Doppler for hemodynamics

![Graph showing degree of curvature with different methods and conditions]
TREATMENT – ACTIVE PHASE (AUA GUIDELINES)

- **NSAIDs** for pain management

- May offer
  - Intralional verapamil (weak evidence)
  - Extracorporeal shock wave therapy (ESWT) for **pain**
    (risk of adverse events, particularly increased pain)

- Not enough data: Colchicine, pentoxifylline, potaba, Co Q-10, topical Magnesium, topical verapamil, topical or intralional LrhSOD, electromotive therapy, traction

- **Do NOT offer:**
  - Oral Vitamin E, tamoxifen, procarbazine, Omega-3 fatty acids
  - Electromotive therapy with verapamil
  - Radiotherapy
  - Extracorporeal shock wave therapy (ESWT) for **curvature**
TRACTION FOR ACUTE PHASE PEYRONIE’S

• N=55 (acute phase) vs N=41 (control)

• Traction 6-9 hours/day (not during sleep)

• Rest at least 30 minutes every 2 hours

• Recommend because
  - Pts feel empowered
  - Downside is minimal
TREATMENT – STABLE PHASE (AUA GUIDELINES)

• Intralesional therapy
  - Xiaflex
  - Interferon

• “Shortening”
  (e.g., Nesbit, plication)

• “Lengthening”
  (e.g., incision/excision + graft)

• Inflatable penile prosthesis (IPP)
“LENGTHENING” SURGERY

- Plaque is *excised* or *incised*; defect filled with graft

- Autologous
  - Temporalis fascia
  - Tunica vaginalis
  - Dermis
  - Saphenous vein

- Non-autologous
  - Cadaver pericardium
  - Bovine pericardium
  - Porcine small intestine submucosa (SIS)
TUNICAL LENGTHENING

- Circumcising incision
- Elevate neurovascular bundle
- Incise plaque
- Apply graft
INCISION AND GRAFT - OUTCOMES

- 3 studies (N=356, mean f/u 12-58 months)

- Effective for curvature: 79-91%

- Side effects
  - de Novo ED: 15-20%
  - Glans numbness: 9-17% (resolved in 80-100%)

- Length reduction
  - Measured: 29-33%
  - Subjective: 59%

- Effective for curvature, but not a lengthening surgery

“SHORTENING” PROCEDURES

• Nesbit (1965): Resect tunica albuginea

• Saalfeld (1973): Heineke-Mikulicz

• Essed-Schroeder (1985): No tunica albuginea incision

• Lue (1992 & 2002): “No touch” 16-dots

• Hudak (2013)
  - Complex curvature
  - 2cm longitudinal incision
PLICATION - OUTCOMES

• Baseline Curvature
  - Hudak: simple (51%), complex (42%)
  - Gholami: mean 64° (range 30°-120°)

• Effective for curvature: 93-96%

• de Novo erectile dysfunction: 3%

• Measured penile length decrease: 16%
• Perceived loss of penile length: 78%

• Effective for curvature with minimal side effects/shortening

PLICATION – ADVERSE EVENTS

• Bother from suture knots: 12%

• Pain with erection: 11%

• Decrease in penile sensation: 6%

• Hematoma: 4%

• Rare
  - Dysuria/urinary retention
  - Phimosis
# PLICATION VS GRAFT – HEAD TO HEAD STUDIES

<table>
<thead>
<tr>
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<th>Plication</th>
<th>Graft</th>
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<tbody>
<tr>
<td>N</td>
<td>87</td>
<td>101</td>
</tr>
<tr>
<td>Pt reported curvature</td>
<td>No difference</td>
<td>No difference</td>
</tr>
<tr>
<td>Rigidity</td>
<td>▪️ in 19%</td>
<td>▪️ in 32%; 50%</td>
</tr>
<tr>
<td>Measured length</td>
<td>▪️ in 18%</td>
<td>▪️ in 33%</td>
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- Plication and graft are both effective for curvature
- Plication less morbid

XIAFLEX

- FDA approved 2013: Palpable plaque, stable, ≥30°

- 2 injections Q6 weeks x 4

- Improvement: 32.4% (17.5°)

- Modeling is necessary

- Adverse events
  - Bruising (87%%)
  - Edema (45%)
  - Pain (52%)
  - Rupture (0.5%)

![Percent change in penile curvature graph]

With modeling: 2.5
Without modeling: -27.1, -27.9
XIAFLEX: POST-APPROVAL PROVIDER SURVEY (n=100)

• Protocol modifications
  • Compressive dressing: 63%
  • Anti-platelet/anti-coagulation: 46%
  • Patient modeling: 89%
  • Penile stretching device: 39%

• Corporal rupture: 34% (median 5, range 0.5 – 30) days
  - Cause
    - Vigorous intercourse (38%)
    - Nocturnal erections (31%)
    - Surgical intervention: 67%

• Effective (~30% improvement), safe, well tolerated

**TRACTION AFTER PEYRONIE’S SURGERY**

- Post-op: Traction vs control

- Mean length change (post-op vs pre-op)

<table>
<thead>
<tr>
<th>Traction</th>
<th>No traction</th>
<th>P Value</th>
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<tbody>
<tr>
<td>Plication</td>
<td>0.9</td>
<td>0.5</td>
</tr>
<tr>
<td>Graft</td>
<td>1.5</td>
<td>0.2</td>
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- No perceived length loss if using traction

- **Recommend because**
  - Pts feel empowered
  - Downside is minimal

Rybak et al (2012)
PENILE PROSTHESIS FOR PEYRONIE’S + ED

• Evaluate erection before placing prosthesis (in office or intra-op)

• Techniques - curvature
  - Plication
  - Modeling
  - Scratch
  - Yachia (Heineke-Mikulicz) corporoplasty

• Techniques – narrowing
  - Scratch
  - Incision ± Graft
  - Narrow cylinders
    - Titan Narrow
    - AMS CXR
PEYRONIE’S DISEASE - SUMMARY

• History & physical
  - Change in deformity
  - Pain

• Assess deformity with intracavernosal injection

• Active phase – management options limited (NSAIDs)

• Stable phase
  - Graft best for narrowing and good erectile function
  - Plication effective and minimally invasive
  - Xiaflex safe and effective
  - IPP for significant ED