Peyronie’s Disease

Described in 1743 by Francois Gigot de la Peyronie, surgeon of King Louis XV of France.

Peyronie’s disease (indurato penis plastica) is a condition characterized by the formation of fibrous nodules within the tunica albuginea of the corpus cavernosum.

The shapes and forms of Peyronie’s Disease

- Republican
- Dorsal
- Democrat
- Ventral
- Hourglass
- Shortening

How common is the condition?

• Prevalence of palpable plaque 8-9%
  (prevalence is greater than many cancers)

Misconceptions

• Need not treat the PD since it resolves spontaneously. Curvature resolves in only 3-13%. Only pain resolves with time.
• PD caused by trauma to erect penis. Most likely inciting event, however, >60-70% cannot recall specific traumatic event.
• PD found mainly in older men. 6-10% in males <40 years old.
What are the major causes?

- Genetic: occur more often in men with Dupuytren’s contracture of hands, occasional (+) family history
- Trauma: history of penile trauma in about 20-25% of men
- It is different from **congenital curvature** which is noticeable since childhood and does not have palpable plaque.

How the diagnosis is made?

- **History**: (trauma, family history, intracavernous injection, etc.)
- **Physical exam**: Dupuytren’s contracture in hands, penile plaque
- **Polaroid or digital photos**: helpful
- **In office exam**: with injection or vacuum device
- **Color duplex ultrasound**: Location, number, size, calcification, vascular function
### Candidates for Medical Therapy
- Early phase disease < 12 months
- Unstable progressive deformity/plaque
- Painful erections
- Not psychologically ready or interested in surgery

### Medical/Conservative Treatment
- **Oral**
  - Vitamin E
  - Potaba
  - Colchicine
  - Tamoxifen
  - L-arginine
  - Oral PDE 5 inh
  - Trental
- **Mechanical**
  - Shock wave
  - Stretching device
- **Injection**
  - Verapamil
  - Steroid
  - Collagenase
  - Interferon
  - Orgotein
- **Iontophresis**
  - 2-3 drugs
- **Transdermal**
  - Verapamil

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### Injection Therapy
- Recent review of 19 studies (verapamil, ifn, collagenase, corticosteroids)
  - 17 showed positive results
  - Only 1 satisfied Oxford Centre for Evidence-based Medicine criteria (ranks 1-5)
  - Many difficulties

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### Xiaflex
- A combination of several subtypes of collagenase
- Derived from clostridium histolyticum
- These subtypes work synergistically to break the triple helix structure of collagen more effectively than human collagenase.
Xiaflex

- The first phase II trials completed.
- Study A (n=25)
  - 3 intraplaque injections on separate days over 7-10 day period
  - Repeat 3 injection regimen 12 weeks later
  - Success 3 and 6 months: 58%, 53%
- Study B (n=10)
  - 3 intraplaque injections on separate days over 7 day period
  - Repeat this 3 injection regimen 2 times later spaced 6 weeks apart.
  - Success 9 months: 89%

Stretching Devices

Vacuum Erectile Device and Phallus

Preservation of Penile length after radical prostatectomy: Early intervention with a vacuum erection device

Dalkin BL, Christopher BA

- 42 patient
- SPL measurements at preop, 3months postop
- Only 1/36 compliant patients, < in SPL of > or = 1.0cm
- 67% of noncompliant patients had decrease of SPL of > or = 1.0cm

Lue TF, El-Sakka AI

J Urol. 1999 Apr;161(4):1141-4

Vacuum Erectile Device and PD

Lengthening shortened penis caused by Peyronie's Disease using circular venous grafting and daily stretching with a vacuum erection device

Rationale:
- Mechanical exercise (O2)
- Prevents shortening (?lengthening)
- May directly help with curvature
- One time expense for chronic use

Vacuum Erectile Device and PD

Rest of Medical Therapies

- Vitamin E
- Potaba
- Colchicine
- Transdermal gels/creams

Significant Lack of Evidence Based Medicine!
Animals Models in PD


Therapeutic Goals in PD

• Decrease Collagen Synthesis
• Decrease expression of TGF-β1
• Decrease expression of PAI-1

Basic Science Literature

• Several studies involving animal and cell culture models have shown some degree of efficacy:
  - Pentoxiphyline (trental)
  - PDE type 5 inhibitors
  - ? L-arginine

My Current Protocol

• Trental (pentoxiphyline) 400mg bid or tid
• Chronic low doses of oral pde type 5 inhibitors
• VED, daily (5-15 minutes) without the band

• The above regimen is performed by the patient for 3-6 months then re-assessed.
• If patient proceeds to surgery, he resumes above protocol for 3 months.

Thank You!