Is Mondor’s Disease the Underlying Cause of Peyronie’s Disease

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Sexual Medicine Society of North America
Oct 25, 2019
Definitions

Peyronie’s Disease
- Diagnosed clinically (+/- U/S findings)
- Fibrosing condition associated with one or more: curvature, pain, length loss, deformity, nodularity, calcification
- Involves the tunica albuginea

Mondor’s Disease
- Diagnosed on U/S
- Superficial dorsal penile vein thrombosis
Where is the tunica?

Where is the superficial dorsal vein?

What is between these layers?
Anatomic Problems – Observation #1

Peyronie’s Disease
- Curvature occurs in all directions and all along tunica

Mondor’s Disease
- Dorsal vein is midline, dorsal surface
Anatomic Problems – Observation #2

Peyronie’s Disease
- Scarring always involves tunica with varying involvement of Buck’s (deep dorsal vein essentially never involved)

Mondor’s Disease
- No published evidence of Mondor’s progressively involving Buck’s, then tunica (we don’t see stages of progressive involvement)
Peyronie’s Disease
- Can deglove penis without any issue during surgery

Mondor’s Disease
- ? Anyone attempted to deglove Mondor’s
For the sake of argument...

What if we **loosened** the definition to say any thrombophlebitis of penile vessels?
Issues with Thrombophlebitis

- In nearly all cases, thrombophlebitis issues are systemic
  - Buerger’s disease, polyarteritis nodosa, Takayasu’s
  - Involves all systems depending on large, medium, or small vessel disease
- Maybe like temporal arteritis?

But PD is predominantly localized to the penis

How can you explain Dupuytren’s or plantar correlations (clearly not linked to vasculitis)?
Other Issues with the Argument

- Runs in families
- 50-65 yo predominantly
- Most men with PD don’t have Mondor’s

- Doesn’t run in families (?)
- 20’s-30’s
- Most men with Mondor’s don’t have PD
What About the Link to Prostatectomy?

Ligation of dorsal veins:
- Cutting out prostate
- Injury to neurovascular bundle
- Complete ED for period of time
- Catheterization
- Paracrine effects?

Venous stasis:
- Evidence of venous stasis? (glanular hyperemia)
- Evidence of thrombosis?
- VEDs cause venous stasis too

Peyronie’s Disease:
- How solid are the data that PD goes up post-prostatectomy?
- Seeing urologist regularly
- Earlier onset ED + ED therapies
What About the Link to Prostatectomy?

- Temporary bump (8-10 yr equivalent ED aging) = 8-10 yr equivalent jump in PD rates

- Combine with greater likelihood of PD dx when being seen by urologist / ED treatments (>2x more likely in Mulhall study)
Andy feeds his dogs from a bag

Dogs have a bone in their penis

PD is caused by dog food

Peyronie’s Disease has a calcified penile plaque

Link to Prostatectomy = Loose Association
What is the more likely explanation?
Case Example (very common)

- 23 yo M complaining of a prominent penile vein following sustained trauma

- Also describes:
  - Penile pain
  - Changes in sensation
  - Changes in glanular engorgement
  - Multiple penile deformities
  - Curvature
  - Erectile dysfunction
  - Hard flaccid symptoms

U/S Performed

- No curvature
- No skin abnormalities
- No lesions / plaques
- Normal vascular flow / anatomy
Far Better Explanations for PD

- Large GWAS study of 2,325 DD men\(^1\)
  - Wnt signaling pathway implicated
  - Responsible for gene transcription, cytoskeleton, intracellular calcium – activated by inflammation / trauma
- Follow-up study of PD men confirmed Wnt pathway involved (chromosome 7)\(^2\)
- Chromosome 7 commonly implicated in PD\(^3\)\(^-\)\(^4\)
- Abnormality in chromosome 7 = increased sensitivity of Wnt pathway

Reality Is...

- PD is likely a spectrum disorder

- Could Mondor’s disease account for a tiny sliver of men who develop PD? ....... No

- Could vasculitis as a source of inflammation be the cause of PD? ....... No (very unlikely)

- Could vascular sources contributing / precipitating inflammation that leads to PD in a percentage of susceptible men? Obviously yes! How else do inflammatory cells travel?
Deeper Issues

- Francois Gigot de la Mondor just doesn’t sound right - PD would have to be changed to MD
- Andrew McCullough, MD takes on a whole new meaning
- And what about Maryland?
- France will be mad (and Quebec too)
- Hellstrom’s fellow will have to redo all of Hellstrom’s slides that his prior fellows created
Thank you