PEYRONIE’S DISEASE

Background
1. Definition
   - Penile curvature most often occurring with erections.
   - Localized fibrotic disorder of the tunica albuginea, resulting in penile deformity, pain, and possible erectile dysfunction¹

2. General Information
   - Fibrous plaque develops containing excessive collagen, altered framework of reduced and fragmented elastic fibers, and fibroblastic proliferation that changes penile anatomy
   - Plaque inelasticity in normally stretchy tunica albuginea results in restricted expansion of the affected corporal body during erection.
   - Curvature or incomplete rigidity of the erect penis occurs

Peyronie's disease is an acquired, localized fibrotic disorder of the tunica albuginea causing penile deformity.

Pathophysiology
1. Pathology of Disease
   - Exact pathogenesis unknown
2. Incidence, Prevalence
   o Prevalence:
     ▪ In large survey of 8000 men\textsuperscript{1}, was 3.2%; much higher than
       previously reported
     ▪ In group of 534 men undergoing routine prostate screening\textsuperscript{2},
       prevalence found as high as 8.9%
   o Incidence: estimated to be approximately 1-3%
   o Exact incidence and prevalence difficult to accurately assess
   o Some patients unaware they have Peyronie’s
   o Some may consider condition embarrassing and unlikely to discuss unless
     found on physical or brought up by provider

3. Risk Factors
   o Dupuytren's contracture, diabetes, dyslipidemia, hypertension, aging,
     smoking and self-reported erectile dysfunction\textsuperscript{2}

4. Morbidity / Mortality
   o Symptoms can range from very mild curvature, to severe curvature
     limiting/preventing sexual activity
   o Some experience associated erectile pain

Diagnostics
1. History
   o Gradually increasing penile curvature
   o Approximately half of patients have worsening within one year
   o Some patients report erectile pain or a palpable penile nodule
   o Coital difficulty, including pain with intercourse
   o Inquire about possible associated disorders (i.e., Dupuytren's contractures or
     vascular disease) and inciting events such as trauma or GU surgery

2. Physical Examination
   o Usually painless, firm fibrotic plaque on penile; approximately 1.5cm.
     diameter
   o Patient may provide erection photos

3. Diagnostic Testing
   o Laboratory evaluation: None
   o Diagnostic imaging
     ▪ Diagnostic imaging not required
     ▪ Diagnosis made by history and physical alone
     ▪ If diagnosis unclear, ultrasound is the preferred imaging modality…
       identifies any plaques

Differential Diagnosis
1. Key Differential Diagnoses
   o Congenital penile curvature
   o Artificial penile nodules (eg, tancho nodules, bulleetus)
   o Penile fracture

2. Extensive Differential Diagnoses
   o Penile dorsal vein thrombosis
   o Leukemic infiltrate of the penis
   o Late syphilitic lesions
**Therapeutics**

1. Acute Treatment
   - May include observation, medications injections or surgical management
   - Observation: if no pain or disruption of sexual activity, observation acceptable option
   - Medications:
     - Pentoxifylline (blood viscosity reducer agent): considered first line therapy
       - Found to be moderately effective in reducing penile curvature and plaque volume in early chronic PD.
     - Vitamin E: appears to be no more effective than placebo.
   - Injections:
     - Decadron: 0.2-0.4 mg per plaque injected weekly for 10 weeks associated with some benefit and improvement.
     - Verapamil: injection into plaque; interferes with synthesis of scar tissue precursors
   - Surgical: may be indicated after 12-18 month observational period
     - Nesbit tuck procedure: Unaffected tunica albuginea removed from side of penile shaft immediately opposite Peyronie disease plaque to straighten and shorten penis
     - Tunica plication procedure: surgeon makes several cuts in scar tissue, allowing sheath to stretch and penis to straighten.

2. Further Management needed within 24 hrs
   - None

3. Long-Term Care
   - If comorbidities, (e.g., vascular disease, diabetes) they must be managed

**Follow-Up**

1. Return to Office
   - Time frame for return visit:
     - Dependent on type of management used
     - Progression of symptoms evaluated every 3 months
   - Recommendations for earlier follow-up:
     - Only if severe symptoms occur, such as rapidly developing curvature, inability to have intercourse or severe pain

2. Referral to Specialist:
   - Recommendations/urgency:
     - If primary provider does not feel comfortable with management, urological referral appropriate

3. Admit to Hospital
   - Recommendations/urgency:
     - Hospital admissions required only for surgical cases

**References**


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