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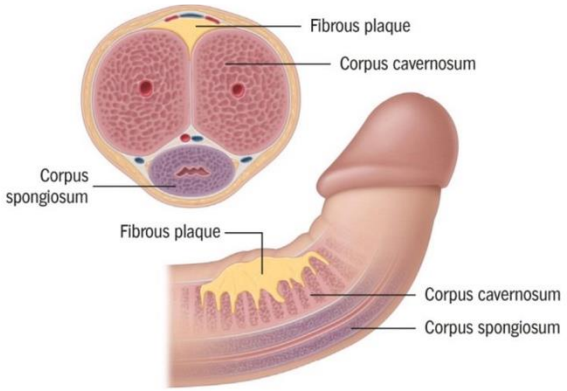
PEYRONIE'S DISEASE, BASICS

DEFINITION AND EPIDEMIOLOGY

Acquired connective tissue disorder, characterized by the formation of **fibrotic plaques in the tunica albuginea** of corpora cavernosa which can lead to **penile deformity**, more evident during the erection.
Prevalence: up to **9-13%**.
Possible onset in all age groups but peak of incidence between **50 and 60 years.**



ETIOLOGY AND RISK FACTORS

Unknown etiology. Most accredited theory: **microtrauma (during sexual intercourse)** → local inflammatory response with remodeling of the connective tissue and genesis of the fibrous plaque. Possible onset after significant penile trauma. Other theories: genetic predisposition, oxidative stress, autoimmunity, infections.
Risk factors: diabetes, hypertension, dyslipidemia, smoking, ischemic heart disease, and alcohol abuse.
Close epidemiological and pathophysiological correlation: Dupuytren's disease (palmar fibromatosis), Ledderhose disease (plantar fibromatosis).

DIAGNOSIS

Medical and sexual history: Essential the assessment of **erectile function.**
Evaluate psychological condition and **expectations.**
Validated tools to assess the disease and sexual function (PDQ, GAPD, VAS, IIEF)
Physical examination: Evaluate the **penile length, plaque, and curvature.**
Caliper and goniometer are useful tools.
Sufficient erection needed to correctly assess curvature: intracavernous vasoactive drugs, vacuum devices, self-photographs **(Kelami's method)**.
Penile Ultrasound: Basal ultrasound not routinely recommended to assess the plaques (poor reliability).
Doppler ultrasound can be offered in patients with erectile dysfunction (especially if surgery is indicated).

CLINICAL PHASES

1) **Acute (active, inflammatory) phase**: progressive development of the penile curvature, penile pain (especially in erection), and palpable fibrotic plaque. Variable duration, up to 12-18 months.

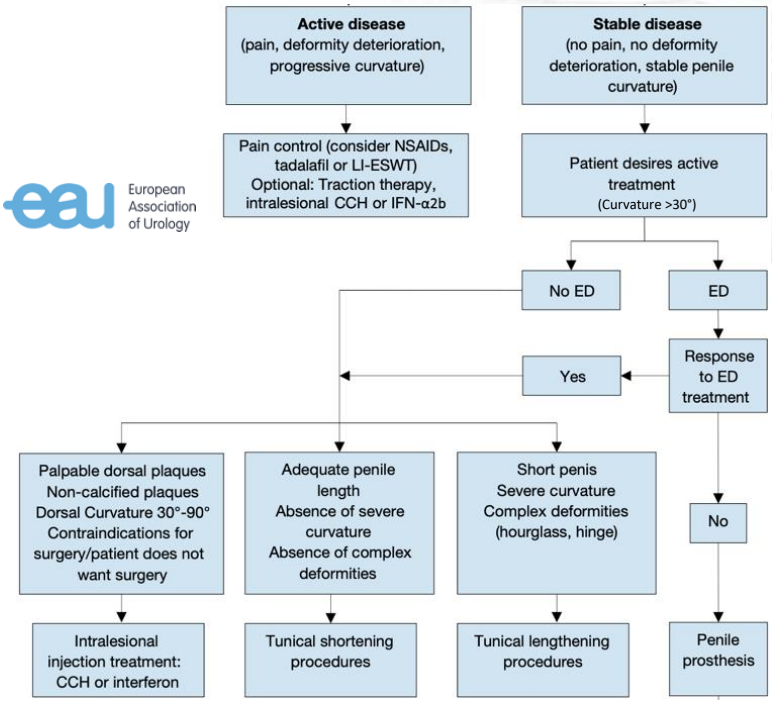
2) **Chronic (stable) phase**: stabilization of the curvature, disappearance of pain, and calcification of the plaque.

Important: pain in the acute phase can be absent in a significant percentage of patients.
Calcified plaque as a pathognomonic sign of chronic phase is under discussion.

Type of penile curvatures: **dorsal (most common)**, ventral, lateral, mixed, complex deformities (hinge, hourglass).

Other common symptoms: difficulty in sexual intercourse **(up to erectile dysfunction), penis shrinkage, psychological distress** (up to depression).

THERAPY



European Association of Urology

No "etiological therapy" with "curative purpose".
Main goals:
- Acute phase: to relieve pain, to hinder the worsening of the curvature.
- Chronic phase: to correct the penile deformity.
In both cases: to preserve or improve sexual function.
Type:
- Conservative: mainly indicated in the acute phase, but it can be offered in selected patients during the chronic phase.
- Surgery: reference treatment during the chronic phase (after at least 3 months of stabilization).

- **Oral treatments** (Pentoxifylline, Vitamin E, Potaba, Carnitine, Coenzyme Q10): limited evidence on their efficacy, not recommended.
- **Other intralesional treatments** (Verapamil, Hyaluronic acid, Platelet-Rich Plasma): may reduce penile curvature (limited evidence).
- **Penile modeling** (Traction devices, Vacuum devices): may reduce penile curvature and increase penile length (limited evidence).