Episode 41: Congenital Clubfoot w/ Dr. Gantsoudes

Etiology

- Etiology is not well understood
- Developmental
- Genetic
- Perinatal Factors
- Multiple theories

History/Physical

- Full musculoskeletal exam
- Assess resting position
- Assess ROM (True Clubfoot can't be passively corrected)
- Assess neurological status of the foot
- Assess vascular status
- Look for limb length discrepancy

Imaging

- Ultrasound
- Radiographs ?

Classification

Pirani et al. Has developed a valid and reliable method of clinically assessment of the amount of deformity present in an unoperated congenital clubfoot less than 2 years of baby. . It allows the treating practitioner to know how patient is responding to treatment and when surgical cutting of tendon i.e. tenotomy is required [13] (Table 1).

Pirani Classification of Clubfoot Deformity

	SCORE		
PHYSICAL EXAMINATION FINDINGS	**0**	**0.5**	**1.0**
Curvature of lateral border of foot	Straight	Mild distal curve	Curve at calcaneocuboid joint
Severity of medial crease (foot held in maximal correction)	Multiple fine creases	One or two deep creases	Deep creases change contour of arch
Severity of posterior crease (foot held in maximal correction)	Multiple fine creases	One or two deep creases	Deep creases change contour of arch
Medial malleolar-navicular interval(foot held in maximal correction)	Definite depression felt	Interval reduced	Interval not palpable
Palpation of lateral part of headof talus (forefoot fully abducted)	Navicular completely "reduces"; lateral talar head cannot be felt	Navicular partially "reduces"; lateral head less palpable	Navicular does not "reduce"; lateral talar head easily felt

Anatomy

- Cavus
- Adductus - forefoot
- Varus - forefoot/hindfoot
- Equinus - hindfoot

- Deformity most pronounced in the talus w/ short talar neck and medial and plantar deviation of the anterior end
- Calcaneus tends to be smaller than normal; and sustentaculum is underdeveloped
- Navicular and cuboid often have medial displacement on the talar head and calcaneus

- Contractures & fibrosis of the ligaments on the medial side of the foot also contribute
- May also have abnormal blood supply

Diagnosis

- Usually evident at birth with obvious foot deformity
- Can be seen in isolation or as a part of other msk abnormalities (Down syn, Larsen syndrome, arthrogryposis, spina bifida, etc)

Treatment

Non-operative Mngt (First Option)

- Ponseti Method
- Gradual correction of the deformity w/ serial weekly long leg casting
- Corrected in the order of the CAVE acronym
- Cavus - elevate the metatarsal

Adductus - rotating the forefoot and calcaneus under the fixed talus
Varus
Equinus- last to be corrected and should not be attempted until forefoot adduction is corrected and the forefoot can be abducted easily to 60 degree relative to the anterior aspect of the ankle
Often corrected by achilles tenotomy

After correction the patient is managed w/ foot abduction orthosis full time for 3 months, followed by part time wear for two to four years

- Recurrence has been reported between 37-47%
  Premature discontinuation of brace wear has been shown to correlate

  Can later be treated operatively or with braces according to the rigidity

- French Functional Method

- Operative treatment - indicated when non-op treatment fails

  Soft Tissue Release

Nailed It Ortho podcast episode

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