CLUB FOOT CORRECTION

E. Parino
Centro chirurgia del piede “Prof. G. Pisani”.
Clinica Fornaca
Torino - ITALY

CONGENITAL CLUB FOOT

Focus on specific aspects
• Pathogenesis
• Clinical examination
• Treatment
CONGENITAL CLUB FOOT

PATHOGENESIS

- arrested development  
  (Bohm, 1929)
- abnormal intrauterine position  
  (Browne, 1993)
- primary germinal abnormality  
  (Iran and Sherman, 1963)
- primary abnormality of the soft tissues  
  (Fried 1959 / Ippolito and Ponseti, 1980)
- neuro-muscular alterations  
CONGENITAL CLUB FOOT

Pathogenesis

ONTOMORPHOGENETIC PERIOD

PERONEAL GROWTH PHASE

TIBIAL GROWTH PHASE

1 MONTHS 2 MONTHS 9 MONTHS 13-15 YEARS

1 month 2 months 9 months 13-15 years
CONGENITAL CLUB FOOT
Clinical examination

GENERAL:
Non idiopathic club foot
( symptomatic of various syndromes)

LOCAL:
Reduction possibilities

Arthrogriposis
Larsen Syndrome
(Flattening face, palatoschisis, multiple joint dislocation)

Freeman-Sheldon Syndrome
(Carpal-tarsal dystrophy, whistling mouth)
CONGENITAL CLUB FOOT

Local examination:
- non-structural (easily manipulated)
- fixed equinus
- complex fixed deformity

Non-structural (easily manipulated): conservative treatment

- manipulation
- taping
- plaster
- continuous passive motion
CONGENITAL CLUB FOOT

Conservative treatment

Danger of the ‘cracked nut effect’ on the talus

CONGENITAL CLUB FOOT

Conservative treatment

Flattened talus
CONGENITAL CLUB FOOT

Fixed equinus

Achilles Lengthening and plaster

CONGENITAL CLUB FOOT

COMPLEX FIXED DEFORMITY

Radical treatment
Major corrective surgery
CONGENITAL CLUB FOOT

Surgical treatment

SURGICAL TREATMENT PHASES

1) Advisable:
   3 months: latero-postero-medial release

2) Ongoing treatment:
   2-3 years: transfer of the TA to the peroneus III
   7-8 years: derotational tibial osteotomy
   13-14 years: bone surgery

Early intervention is recommended to avoid secondary deformity
CONGENITAL CLUB FOOT

- anesthesiological age

- latero-postero-medial release

- transfer of the tibialis anterior to the peroneus III

- derotational tibial osteotomy
CONGENITAL CLUB FOOT
- anesthesiological age
- latero-postero-medial release
- transfer of the tibialis anterior to the peroneus III
- derotational tibial osteotomy

RELEASING THE KNOTTED TISSUE

LATERO-POSTERO-MEDIAL RELEASE SURGICAL INCISION
CONGENITAL CLUB FOOT
- anesthesiological age
- latero-postero-medial release
- transfer of the tibialis anterior to the peroneus III
- derotational tibial osteotomy

Quick and easy access to the entire structure

Quick and easy access to the entire structure of the foot
CONGENITAL CLUB FOOT
- anesthesiological age
- latero-postero-medial release
- transfer of the tibialis anterior to the peroneus III
- derotational tibial osteotomy

Achille tendon lengthening and posterior Tibio-talar/Subtalar release
CONGENITAL CLUB FOOT
- anesthesiological age
- latero-postero-medial release
- transfer of the tibialis anterior to the peroneus III
- derotational tibial osteotomy
CONGENITAL CLUB FOOT
- anesthesiological age
- latero-postero-medial release
- transfer of the tibialis anterior to the peroneus III
- derotational tibial osteotomy

CONGENITAL CLUB FOOT
- anesthesiological age
- latero-postero-medial release
- transfer of the tibialis anterior to the peroneus III
- derotational tibial osteotomy
CONGENITAL CLUB FOOT
- anesthesiological age
- latero-postero-medial release
- transfer of the tibialis anterior to the peroneus III
- derotational tibial osteotomy

BEFORE AND AFTER
CONGENITAL CLUB FOOT

- anesthesiological age
- latero-postero-medial release
- transfer of the tibialis anterior to the peroneus III
- derotational tibial osteotomy
CONGENITAL CLUB FOOT
- anesthesiological age
- latero-postero-medial release
- transfer of the tibialis anterior to the peroneus III
- derotational tibial osteotomy

19
CONGENITAL CLUB FOOT
- anesthesiological age
- latero-postero-medial release
- transfer of the tibialis anterior to the peroneus III
- derotational tibial osteotomy
CONGENITAL CLUB FOOT

- anesthesiological age
- latero-postero-medial release
- transfer of the tibialis anterior to the peroneus III
- derotational tibial osteotomy
CONGENITAL CLUB FOOT
- anesthesiological age
- latero-postero-medial release
- transfer of the tibialis anterior to the peroneus III
- derotational tibial osteotomy
CONGENITAL CLUB FOOT
- anesthesiological age
- latero-postero-medial release
- transfer of the tibialis anterior to the peroneus III
- derotational tibial osteotomy
CONGENITAL CLUB FOOT
- anesthesiological age
- latero-postero-medial release
- transfer of the tibialis anterior to the peroneus III
- derotational tibial osteotomy
CONGENITAL CLUB FOOT
- anesthesiological age
- latero-postero-medial release
- transfer of the tibialis anterior to the peroneus III
- derotational tibial osteotomy