



ASAMI & Hull Deformity Symposium – Management of Charcot Foot

🔄 Tracks

Meeting Room 408-409

📅 Thursday, September 29, 2022

🕒 16:50 – 17:50

📍 Meeting Room 408-409

Details

Charcot disease:

Pathogenesis and natural history

Conservative management (TCC, boot and WB vs NWB and duration)

Diagnosis and management goals

Management of deformity:

Role of external fixation

Role of internal fixation

Case discussion

Neglected infected Charcot: amputation versus reconstruction

Speaker



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Pathogenesis and natural history



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Conservative management (TCC, boot and WB vs NWB and duration)



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Diagnosis and management goals



Hemant Sharma

Professor In Trauma & Orthopaedics
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Role of external fixation



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Role of internal fixation



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Prof
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Case discussion – Neglected infected Charcot: amputation versus reconstruction

Moderator



Gamal Ahmed Hosny
Prof
Benha University Hospitals



Hemant Sharma
Professor In Trauma & Orthopaedics
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Charcot Disease: Diagnosis and management goal



PROF DR NAZRI MOHD YUSOF

ADVANCED TRAUMA AND LIMB RECONSTRUCTIVE SURGERY

DEPT. OF ORTHOPAEDIC, TRAUMATOLOGY AND REHABILITATION

KULLIYAH OF MEDICINE



Outline

- How to diagnose?
- What are the goals of management?

A 45-year-old man with 10 years history of diabetes



Diagnosis

- Clinical
- Imaging

Clinical Acute

- Swollen
- **Warm**
- Erythematous
- Mild discomfort (**because of neuropathy**)
- Precipitate by minor trauma or infection

Inflammation

Physical examination

+/- Fever

Bounding pulse

Reduce sensation

+/- Deformity (Late sign)

Increase foot skin temperature



Sometime ulcer



Differential diagnosis

Cellulitis

Infection

Osteomyelitis

Deep vein thrombosis

Gouty arthritis

IMAGING

Normal

Subtle fracture / dislocation

Oct 2020



A 60 year old man complain of swelling and redness over his right leg and foot.

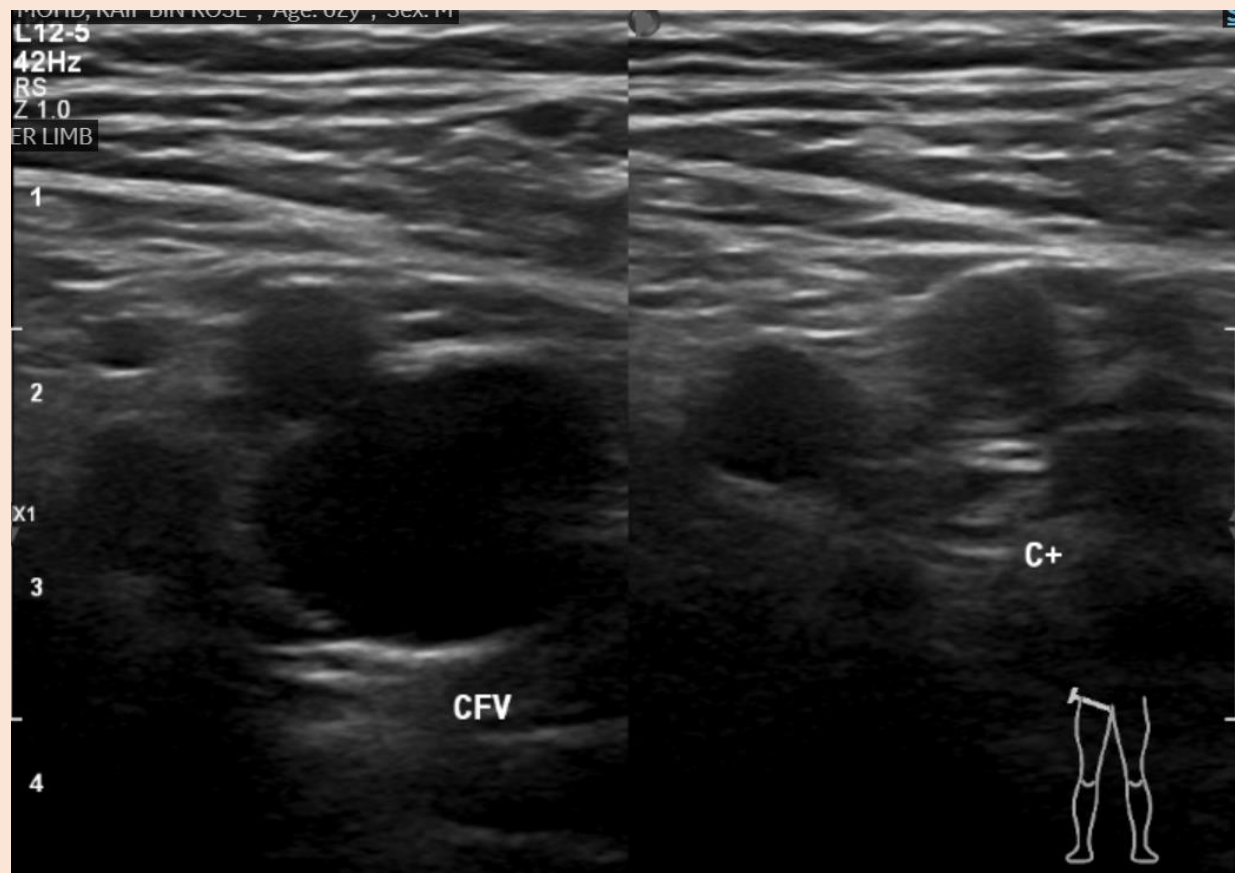
Treated as cellulitis

21 Nov 2021

Admitted again with similar
complain



Ultra sound Nov 2021



Compressible

femoral vein

29 Nov 2021



April 2022

Destroyed and
disorganized joint



June 2022



How can we prevent this?

MRI

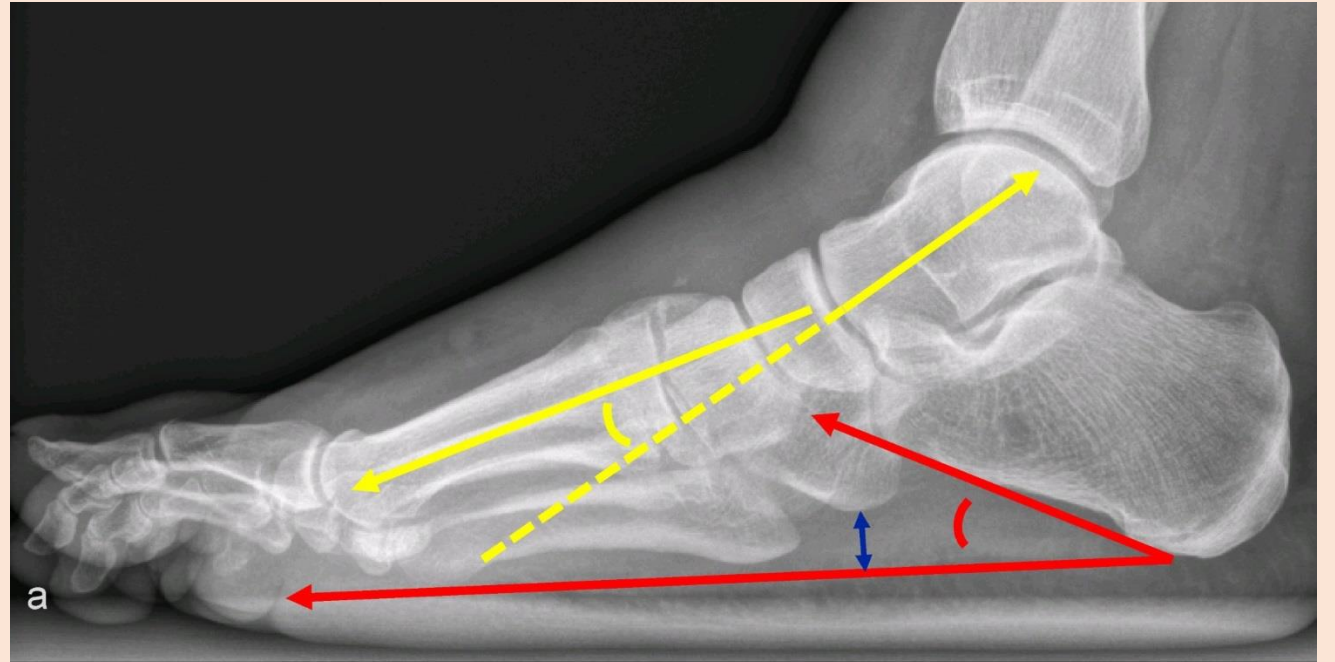
- More sensitive and specific
- Not readily accessible
- Exclude osteomyelitis

Radioisotope scan

- Labelled WBC scan
- PET scan

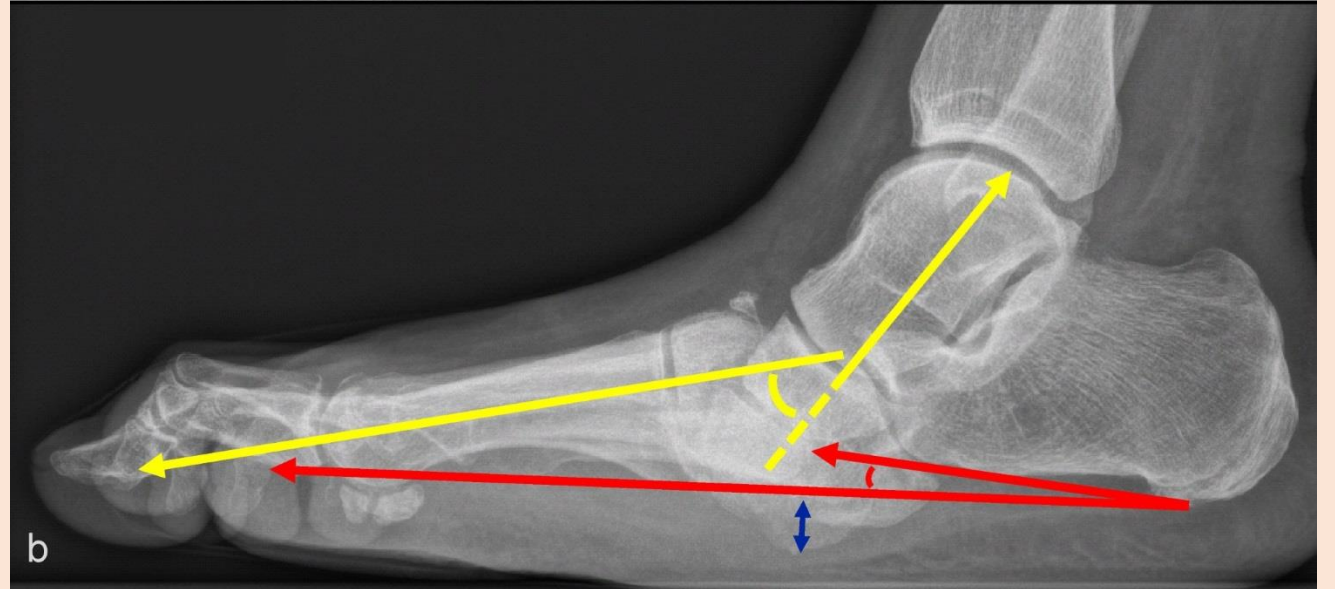
Weight-bearing radiograph

Talo - 1st metatarsal angle
0 degree



Plantar aspect of
calcaneum –plantar
aspect of 5th metatarsal

20 degree



Imaging of early active Charcot foot.

a: lateral weight-bearing radiograph showing no abnormalities.

b: sagittal STIR-Sequence in MRI showing classic bone marrow edema in the midfoot (white arrows)



ESSR 2018 / P-0018

The Charcot foot: What does the Radiologist need to know?

Congress: ESSR 2018

Poster Number: P-0018

Type: Educational Poster

Keywords: Musculoskeletal joint, Musculoskeletal bone, Musculoskeletal soft tissue, MR, Plain radiographic studies, Diagnostic procedure, Staging, Imaging sequences, Infection, Inflammation, Metabolic disorders

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DOI: 10.1594/essr2018/P-0018

DOI-Link: <https://dx.doi.org/10.1594/essr2018/P-0018>

Management goal

Stable foot

Shoe-able foot

Walkable

**It's not enough to
exclude infection**

Acute stage – prevent foot deformity

Offloading

Immobilisation

- Bed rest
- Half-shoes
- Crutches, Walkers and Wheelchairs
- Total contact cast (TCC) -gold standard
- Prefabricated pneumatic walking brace (Air cast)



Images © 2003 AAWC





Stable stage

when swelling resolved
and temperature reduce

Protected weight bearing



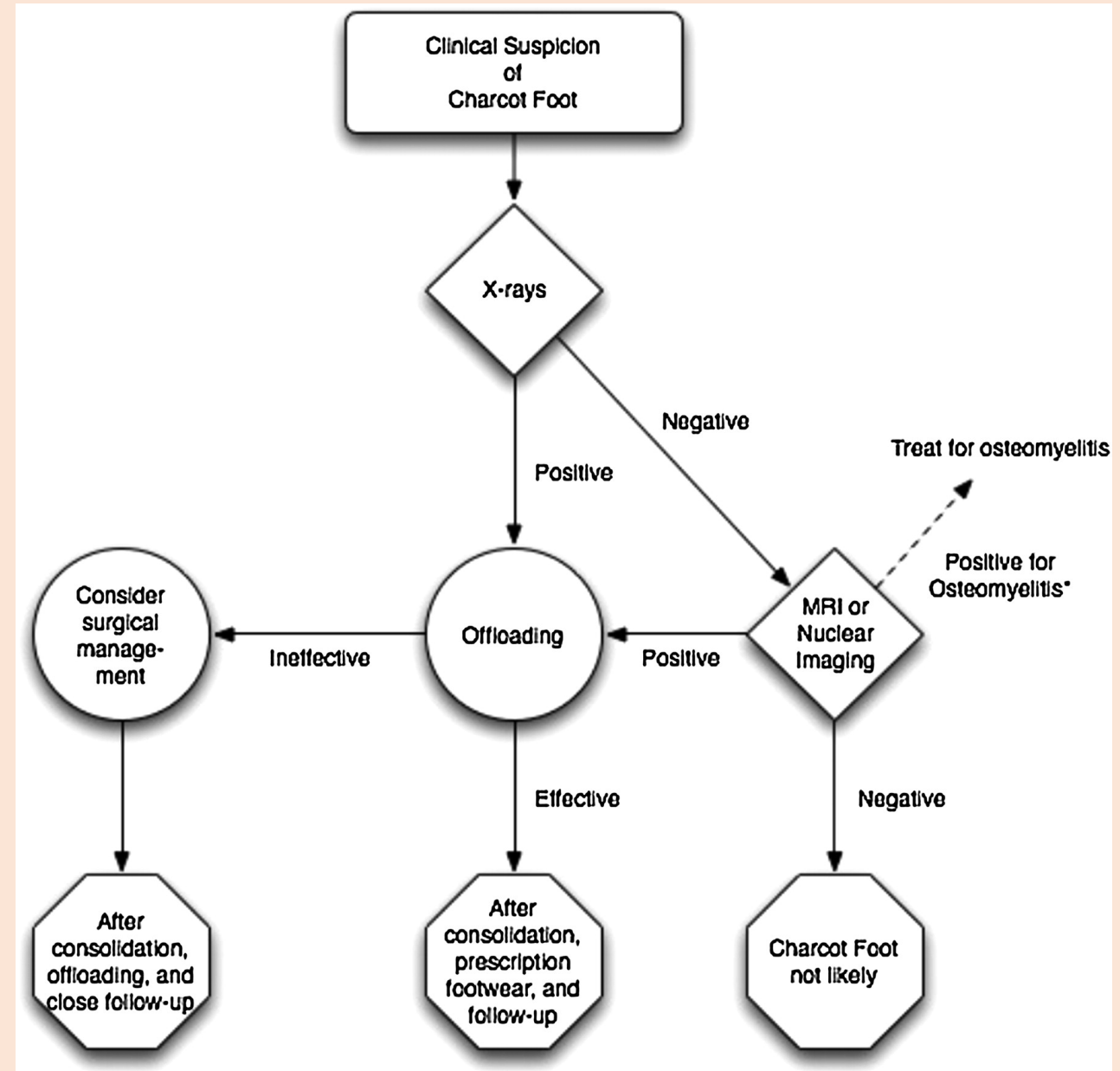
Goal of surgical treatment

a long-term **infection- and ulcer-free**
plantigrade and stable foot that allows
the patient to walk with footwear

should not be merely to save the limb

Indication of surgery

- Severe unbraceable deformity
- Recurrent ulceration
- Joint instability
- Infection
- **Failed casting or orthotic devices**



Aim of surgery to create

- Stable
- Painless
- Plantigrade
- Brace-able / shoe-able

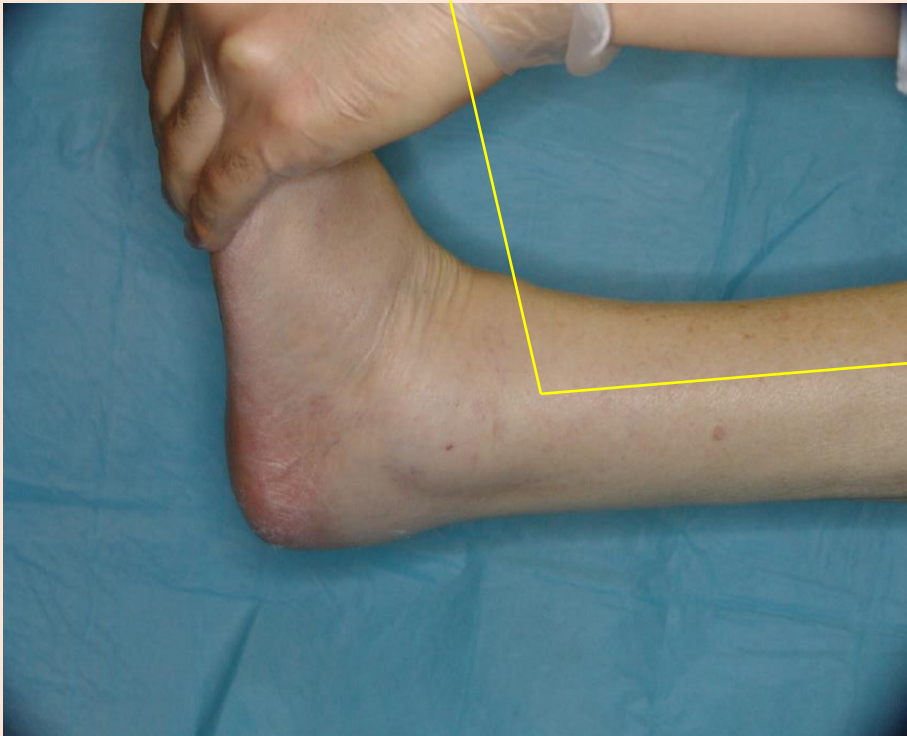


Varo-Equinus deformity

Biomechanical imbalance

Tight Achilles Tendon:

plantar  forefoot pressure



Unstable Hindfoot







Common surgical procedures

- Exostectomy
- Arthrodesis
- Achilles tendon lengthening
- External fixation

Take home message

- Charcot disease frequently missed
- High index suspicion among patients with diabetes
- Plain radiograph is not sensitive enough to detect acute Charcot
- Early management is aim to prevent foot deformity and instability
- Late management is aim to prevent infection, and ulceration, and to allow patients to walk with a footwear

Acknowledgement: Prof Aminudin Che Ahmad, Foot and ankle Unit IIUM