Charcoat Foot Management

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The most important aspect of management of Charcot foot is diagnosing Charcot foot in the early stages. The foot is often red, swollen and painful mimicking infection. Offloading is important at this stage. Total contact plasters or Orthosis helps. At later stages, surgical treatment is indicated for addressing osteomyelitis, excision of exostosis or correcting deformities that cannot be accommodated with therapeutic footwear or custom orthoses. Gastrocnemius lengthening is done to reduce pressure on the midfoot and forefoot. This allows the ulcers to heal and reduces recurrence. For severe foot deformities the concept of super construct is gaining popularity. Super construct is defined by 4 factors:

1. Fusion is extended beyond the zone of injury to include joints that are not affected to improve fixation
2. Bone resection is performed to shorten the limb to allow for adequate reduction of deformity without undue tension on the soft-tissue envelope
3. The strongest device is used that can be tolerated by the soft-tissue envelope
4. The devices are applied in a position that maximizes mechanical stability.

Three techniques have evolved to correct Charcot midfoot deformity viz Plantar plating, Locked plating and Axial screw fixation. ''Super-construct'' techniques typically are used in patients who have poor bone quality and extended healing times are anticipated. The soft-tissue envelope is much thicker plantarly than medially or dorsally, allowing for thicker, more robust plates to be used. Axial screw fixation uses long intraosseous screws that span the area of dissolution and fix the proximal and distal fusion segments. They may be applied antegrade, from the hindfoot into the forefoot, or retrograde through the metatarsophalangeal joints. Relatively large diameter screws can be used without creating large stress risers in the metatarsal shafts as occurs when transcortical screws are used. The positions of the screws aid in realignment of the foot. Arthrodesis can be done through a more limited approach, with less osseous stripping than is needed for plating, and there is less risk of exposed hardware in the event of poor wound healing. Hindfoot deformities are generally treated with Ankle & subtalar fusion with nails. Dysvascular limbs and uncontrolled infection are better candidates for amputation.

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