Charcot osteoarthropathy: a proposed surgical treatment algorithm

[1]Rahamzan NA; [2]Mohana R; [1]Thong FY; [3]Yeap EJ; [4]Chong KW
[1]Department of Orthopaedics & Traumatology, Hospital Queen Elizabeth II, Kota Kinabalu, Sabah, Malaysia
[2]Department of Orthopaedics & Traumatology, Hospital Gleneagles, Penang, Malaysia.
[3]Department of Orthopaedics & Traumatology, Parkcity Medical Centre, Kuala Lumpur, Malaysia
[4]Department of Orthopaedics & Traumatology, BJIOS Orthopaedics Singapore, Farrer Park Medical Centre, Singapore.

INTRODUCTION:

Diagnosing Charcot osteoarthropathy is a challenge, likewise its treatment. Management should proceed in a logical fashion based on the patient's clinical and radiographic presentation[1]. However, no fixed treatment algorithm was introduced as a guide. Hence, we aimed to propose a surgical treatment algorithm for Charcot osteoarthropathy.

MATERIALS & METHODS:

Retrospective, non-randomized single center clinical study. Nineteen patients with Charcot osteoarthropathy of the foot and ankle without peripheral vascular disease and localized infection underwent various surgeries based on our proposed surgical algorithm and results were tabulated.

RESULTS:

Total of 84.2% showed a good outcome, where patients were able to ambulate independently after 3 to 6 months with the algorithm proposed. Three patients complicated with infected wounds, in which all eventually healed.

DISCUSSIONS:

Majority of Charcot osteoarthropathy is still treated nonoperatively because of lack of evidence of an ideal regime to show significant long term outcome[2]. Charcot osteoarthropathy is classified into various stages by means of clinical and radiographic features[3]. Historically, surgery on an unstable Charcot foot usually had been deferred until after completion of stage III[4]. We proposed that the treatment should be aggressive and prompt, and we experienced good results by adhering to the proposed algorithm which provides a guide not dependent on stage or anatomic location. The goal is to create a plantigrade, stable foot free from significant risk for further ulceration.

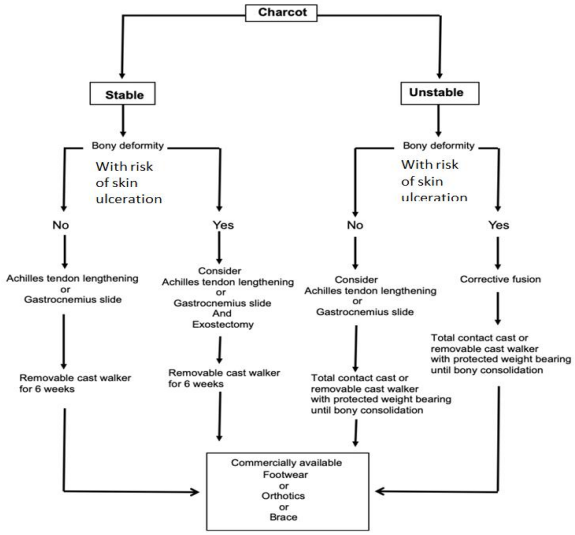

Figure 1: Proposed surgical algorithm

CONCLUSION:

Surgical intervention in patients with Charcot osteoarthropathy of foot and ankle showed good outcomes with a stable plantigrade foot serving for a functional ambulation with accommodative footwear and orthoses following the surgical treatment algorithm proposed.

REFERENCES:

1. RM Marks, MS Myerson, abNeuroarthropathy, The Foot (1995)5, 185-193Q 1995 Pearson Professional Ltd
2. Andreas Jostel, MD, Edward B. Jude, Medical Treatment of Charcot Neuroosteoarthropathy, Clin Podiatr Med Surg25 (2008) 63–69.
3. Eichenholtz SN, editor. Charcot joints. Springfield (IL): Charles C. Thomas; 1966;3–8.
4. Johnson, JE: Operative treatment of neuropathic arthropathy of the foot and ankle. J. Bone Joint Surg. 80-A:1700–1709, 1998.