Heterotopic Ossification post major burns: A surgical dilemma when multiple joints are involved.

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Background:
Heterotopic Ossification (HO) is defined as the presence of lamellar bone at locations where bone normally does not exist.[1] HO in major burns is not well described in the current literature. In major burns, the incidence of HO is rare and currently no definitive management principles have been established.[2]

The aim of this report is to present a rare case of HO in the tempomandibular joints (TMJ) of a young male burn patient with the hope that our surgical colleagues have encountered and successfully managed a similar case and can provide some feedback.

Case Presentation:
This 17-year-old male student received extensive burns in 2005 at the age of 10 when a kerosene boiler allegedly exploded inside a family home in Vietnam. He had a delayed presentation to our unit many years after the original injury and his 1st aid and initial management is unknown.

He was brought to Australia in 2007 by a charitable organization and on presentation had burn coverage by skin grafts and full thickness skin grafts and onto his anterior thighs and lower legs (fig. 1 & 2). While contractures on his anterior chest, abdomen, and groins and over his chin and neck, anterior chest, abdomen, and posterior thorax was involved, as were both axilla and medial aspects of his upper extremities, while his face and neck were spared. He was managed with bilateral alloplasty of the TMJ with interpositional placement of Silastic to ramal stumps with bone screws. With physiotherapy he managed to open his mouth 2cm and was later lost to follow up only to represent 4 years later with recurrent HO of the TMJ.[3]

He then underwent bilateral condylar implants (Kent prosthetics) that articulated with Teflon coated Proplast replacements. A further 3 years later he represented with an infection in one TMJ and was again unable to open his mouth. Both prostheses were removed and he was later treated with radiation therapy and Rubin (1986) concluded that surgical intervention in TMJ affected by HO may have little value.

More recent papers have suggested interpositional arthroplasty with temporals myofascial flap or joint reconstruction with both costochondral graft and distraction osteogenesis of ramus condylar unit in TMJ ankylosis, but none of these studies included TMJ HO.[6]

Conclusion:
Have any of our colleagues encountered and devised a successful management plan for young patients with HO of the TMJ due to burns?

References: