

Case Report

Bone Wax Extrusion Through Stump Wound After Above Knee Amputation

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A 55-year-old male smoker with no other comorbidities was referred to our hospital with signs and symptoms of acute left lower limb ischemia, which was not salvageable. He underwent an Above Knee Amputation [AKA] to avoid sepsis and relieve pain. He was discharged on a therapeutic dose of Rivaroxaban as he had a past history of unprovoked venous thromboembolism.

Post AKA, his stump wound was healthy. Two weeks post-op, he reported to the emergency with a history of swelling and pain at the stump edge. Upon examination, there was a 2 x2 cm collection on the lateral edge of his stump wound. Under local anaesthesia, the collection was drained. This was thought to be an infected hematoma. He started regular physiotherapy once the incision site healed.

Twenty weeks later, the patient presented with mid stump wound redness and pain and was attributed to a recently acquired prosthesis. He received an antibiotic course, and an MRI was done to rule out an underlying collection, hematoma,

or osteomyelitis. Imaging revealed a -defined bulb bulb-like mass lesion demonstrating the fascicular sign on T1WI and hyperintense signal on T2 WI at the end of the sciatic nerve course - a "stump neuroma." [1].

Figure 1 A, B, C.

The patient was informed that data concerning the case would be submitted for publication and gave consent.

Comment

Neuroma is a non-neoplastic proliferation that occurs at the end of an injured nerve and is usually seen 1–12 months after amputation. It usually develops as an injured nerve starts to heal uncontrollably, resulting in a lump of unorganized axon fibres and non-neural tissue growth [2,3].

Two types of post-amputation neuromas are encountered. A terminal neuroma originates at the end of the severed nerve, which represents a normal pattern of healing of the nerve and is

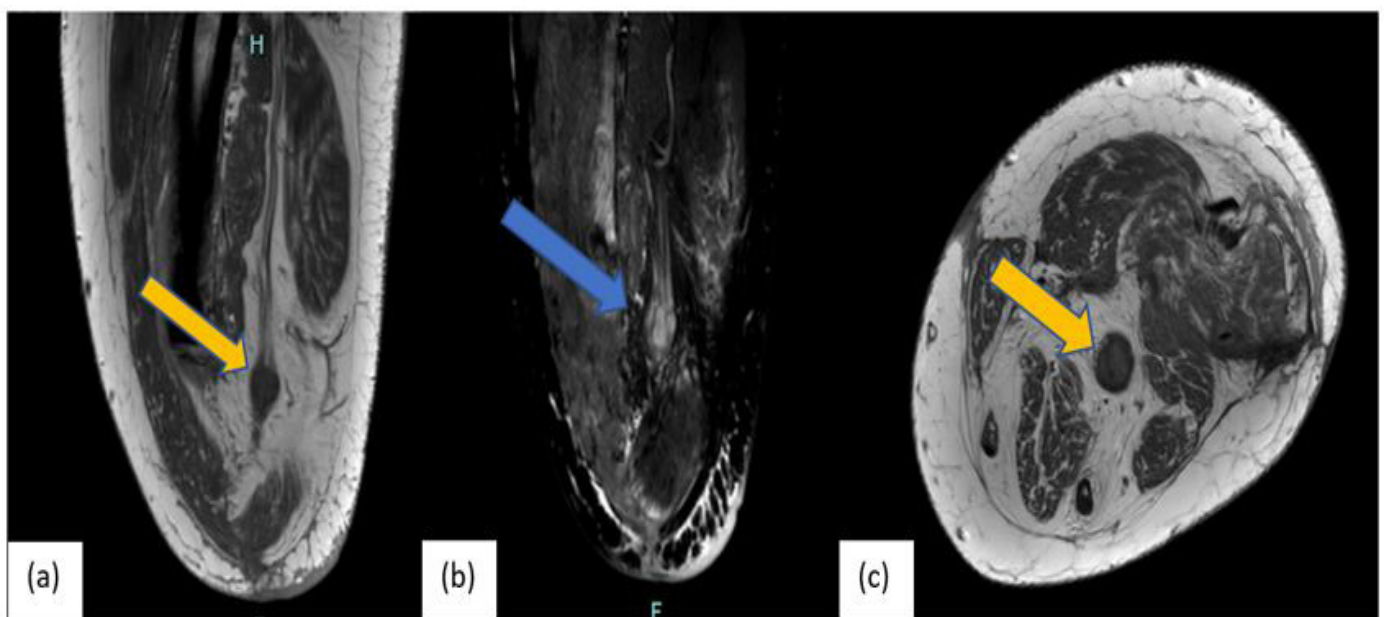


Figure 1: 55-year-old male, status post above knee amputation. Sagittal T1W (a), FAT SAT T2W (b), and axial T1W (C) MRI images demonstrate focal fusiform enlargement of the sciatic nerve with well-defined margins. T2W images shows T2 hyperintense signal with internal fascicular morphology (blue arrow in b). MRI features are typical of a stump neuroma in a patient with above-knee amputation.

often asymptomatic, as seen in our case. The other is a spindle neuroma that is localized in the nerve and away from the severed nerve ending, representing the response of a peripheral nerve subjected to microtrauma due to stretching or compression by the localized scar tissue [2].

Up to 60% of patients with a nerve injury can develop a painful neuroma. The diagnosis of a neuroma relies on history and examination. When there is uncertainty, X-rays can be taken to rule out bone injury and malignant change as a cause of pain. Ultrasound, CT, and MRI will show a well-defined soft tissue mass but rarely investigate necessary [3].

Several techniques are described for the prevention of neuroma formation and they are - end closure (two proximal severed nerves are coapted, or a single nerve is split and coapted to itself); transposition with implantation (in which terminal nerves are buried into muscle, bone, or fascia); neuroorrhaphy (two proximal severed nerves are coapted, or a single nerve is split and coapted to itself); alternate target reinnervation like targeted muscle reinnervation (TMR) and targeted nerve implantation (TNI) [5].

References

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