

Neglected old fracture on right distal tibiofibular after robot walking rehabilitation exercise

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The past history and chief complaints

A 56 year old male, had spinal cord injury (ASIA A), S(T9,T10) M(T9,T10) due to T11-T12 vertebrae fracture after the car accident which took place at 2015. He was admitted for the evaluation about swollen right lower leg for 2 months. There were heatness, color change and swelling. Recently he had been to the other hospital for the further comprehensive rehabilitation therapy including robot assisted walking exercise.

Evaluation and final diagnosis

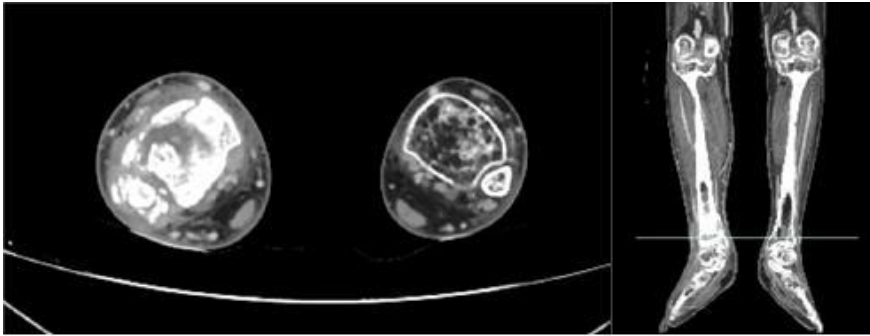
To rule out deep vein thrombosis, the evaluation plan was to do routine laboratory check up including D-dimer and imaging study such as CT venography on lower extremity. The lab Results were increased D-dimer $4.1 \mu\text{g}/\text{mL}$ and mild elevation in ALP level as 157U/L. On CT venography revealed there was no DVT, but a distal tibia fracture and bony callus formation accompanied by adjacent soft tissue swelling on right foot. The unexpected Results seem evident for the cause of the patient's leg swelling, heatness, color change and no therapeutic effect of pneumatic compression.

Management

Consultation with Orthopedic surgery department was done. Distal tibiofibular fracture with angulation needs a surgical management but there were a large amount of callus formation which interfered the reduction trial and operation should need more complicated procedures including osteotomy and osteosynthesis. The patient chose to have cast apply and continue conservative treatment as there would be no difference with his paraplegic state after the operation.

Dicussion

In people with SCI, the diagnosis of a fracture in an anesthetic limb can be a challenge. Most patients complain of a recent onset of unilateral leg swelling, not feeling well, and having a low grade fever. When examining a swollen limb with SCI patients, we must rule out a bone fracture as well as lymphoedema and DVT as significant osteoporosis develops in the lower limbs during the first few months after SCI, which makes the bones brittle and prone to fractures and there are increasing fracture incidence for men with complete paraplegia with time after SCI.



CT venography revealed a neglected fracture on Rt. distal tibiofibular bone



Ankle joint x-ray