

Case Presentation for Complex Regional Pain Syndrome

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ABSTRACT

CASE HISTORY: The patient is a 54-year-old female who presented to the orthopedic clinic to evaluate a sharp burning pain in her left lower leg. She stated that the pain started eight months after an Open Reduction and Internal Fixation (ORIF) surgery of her left tibial plateau and had progressively gotten worse. She was prescribed gabapentin and oxycodone for pain and experienced minimal relief with gabapentin. Additionally, she applied analgesic gel which seems to have the most help combined with the narcotic. She stated that stabbing and shooting pain radiated from her left lateral proximal tibia down to her foot, causing muscle spasm in her left big toe. **PHYSICAL EXAM:** Examination of lower leg demonstrated hyperesthesia and hypersensitivity over the anterolateral aspect of proximal tibia. Knee flexion and extension range of motion was between 3°-110° and symmetric bilaterally. There was no crepitus with range of motion. She was stable to valgus and varus stress testing. Edema in ankles was bilateral and chronic. There was an allodynia on the lateral aspect of the proximal tibia and fibula from light touch or pressure; gentle palpations cause extreme sharp pains over the anterolateral knee. There was no joint effusion or deformity, but minimal knee swelling presented. The patient walked with a noticeable limp. **DIFFERENTIAL DIAGNOSES:** Herniated disc, Peroneal neuropathy, Lumbar radiculopathy, Complex Regional Pain Syndrome, Peroneal compartment syndrome. **TESTS & RESULTS:** The patient had an EMG of left thigh and leg, a motor nerve conduction study (NCS) of Left Peroneal and Left Tibial, as well as a sensory NCS of Left Sural - Lateral Malleolus nerve and Left Superficial peroneal nerve. The studies were deemed abnormal based on evidence of a chronic left L4 vertebra radiculopathy and a possible mild left peroneal neuropathy because of a mildly low superficial peroneal amplitude and low-normal deep peroneal amplitudes. **FINAL DIAGNOSIS:** Complex Regional Pain Syndrome (CRPS) **DISCUSSION:** CRPS is characterized by constant regional neuropathic pain; usually associated with abnormal sensory, autonomic, and motor changes. It tends to develop after fracture, soft tissue injury, or surgical trauma; however, the pain is disproportionate in time or intensity to the usual cause of pain. CRPS should be suspected in patients reporting burning pain that lasts beyond usual healing time. Diagnosis requires clinical assessment, usually assessed using the Budapest criteria. Additionally, edema is the most specific clinical sign of CRPS. The syndrome is caused by a multifactorial process involving both peripheral and central mechanisms, but little is known experimentally about how these mechanisms might interact to produce CRPS. The upper limb is affected significantly more frequently than the lower limbs. In the general population, CRPS seems to occur more often after a fracture, having incidence of 3.8-7% within four months of fracture. It is three to four times more common in women than men; the average age is 50 to 70 yrs. **OUTCOME OF THE CASE:** A sympathetic ganglion block at the L4 level was performed as an intent to relieve the pain. The outcome was successful, and patient reported that pain was resolved besides a few aches posteriorly around the proximal calf. However, she does fear that pain may return. She is no longer on any pain medication. **RETURN TO ACTIVITY AND FURTHER FOLLOW-UP:** She will continue her physical therapy on tissue mobilization and gait stability. A follow-up in 2-3 months with a family medicine physician is scheduled. However, if pain returns before that, she will be sent to a pain clinic for consideration of repeat procedure versus nerve stimulator.