When does acute pain become chronic: Can we prevent CRPS?
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Background:
Complex Regional Pain Syndrome (CRPS) is a neuropathic pain disorder where the inciting event is often innocuous but can result in long term pain and dysfunction. Risk factors have been identified, and recurrence is not uncommon. The pathogenesis is multifactorial, involving CNS and genetic factors. Persistent or intense noxious input can lead to central sensitization and CNS changes associated with CRPS. Treatment goals include relief of pain and restoration of function. Patients benefit from multidisciplinary therapy. Due to the chronic nature and higher likelihood of recurrence of CRPS in children, pediatric patients should be intervened upon sooner when they display risk factors.

Case Report:
○ 14 year old male s/p closed reduction of wrist fracture 3 days prior
○ severe pain without relief from narcotics
○ history of contralateral wrist fracture for which he had a prolonged recovery and significant psychological distress
○ significant family dissent and anxiety regarding the patient’s distress; the orthopedic service could find no cause for the patient’s degree of suffering

We were immediately concerned about the patient’s pain and his risk for chronic conversion. We performed a supraclavicular nerve block with 0.5% ropivacaine (20 mL) + clonidine to reset his pain pathways. Pain relief only lasted 4 hours despite having a prolonged motor block. Our chronic pain colleagues suggested performing a high thoracic epidural. The epidural was left in place for 24 hours. His pain significantly improved and his verbal pain score was 1/10. Neuropathic pain medications were started and continued for two months. Patient did not demonstrate any autonomic dysfunction or signs of CRPS during follow up evaluation.

Discussion:
- CRPS is a clinical diagnosis with no lab or imaging findings early on
- “Red flags” for CRPS include severe pain within first week after injury/surgery
- Early diagnosis and management is key to improved functionality in patients with CRPS
- Management strategies include medications, sympathetic blocks, early mobilization, and cognitive behavioral therapy
- Neuaxial sympathetic blockade for this patient seemed to inhibit pain transmission

Implications:
- Pain should be aggressively managed early on to prevent central sensitization
- Pediatric patients often have co-existing psychological disorders and benefit from cognitive behavioral therapy (CBT)
- Patients benefit from multidisciplinary evaluation and treatment
- Not every approach works for every patient

References: