Progression of Localized CRPS to Generalized Disease Despite Multimodal Pain Management

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Background:
Complex regional pain syndrome (CRPS) is a chronic pain disorder characterized by disproportionate pain accompanied by sensory, vasomotor, sudomotor/edema, and motor/trophic abnormalities. Although CRPS typically remains localized to the affected extremity, symptoms may spread to other regions. Described patterns include contiguous, mirror-image, and independent spread. The mechanisms underlying progression remain incompletely understood.

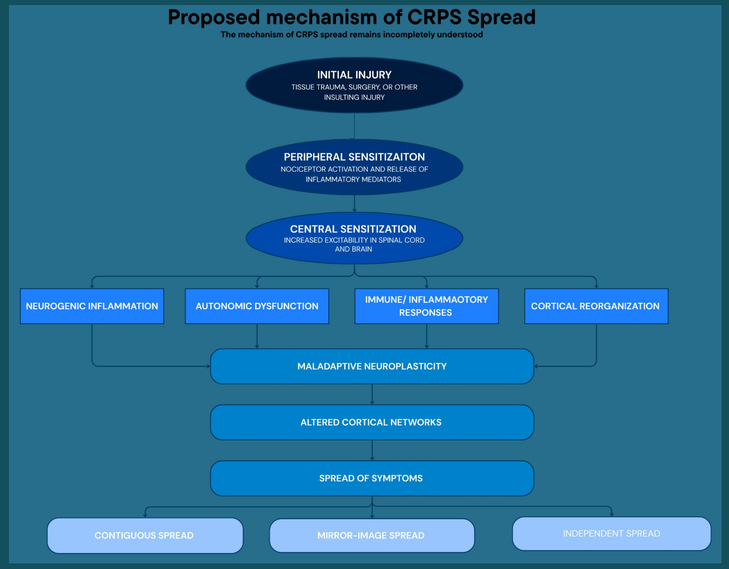
METHODS:
Single-patient retrospective case report. Clinical information was obtained from patient interviews and electronic medical records, including hospitalization records, clinical documentation, imaging, and outpatient reports. Patient consent was obtained.

Discussion:
This case demonstrates an uncommon pattern of CRPS progression from a single lower extremity to generalized symptoms, which occurs in approximately 5% of patients experiencing CRPS. Proposed mechanisms include central sensitization, cortical reorganization, neurogenic inflammation, and autonomic dysfunction. Recognition of reproducible extraterritorial spread may help identify patients at risk for widespread disease and support earlier intervention. Further research is needed to understand mechanisms of CRPS progression and optimize treatment strategies for patients with generalized disease.

References:
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4. van Rijn MA, Marinus J, Putter H, et al. Spreading of complex regional pain syndrome: not a random process. *Journal of Neural Transmission*. 2011;118:1301-1309.
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CRPS IS NOT ALWAYS STATIC.

- This case demonstrates progression from localized unilateral CRPS to contralateral, multiregional, and ultimately generalized symptoms despite extensive interventional and multimodal treatment.
- Central sensitization, neuroinflammation, autonomic dysfunction, and maladaptive neuroplasticity may contribute to disease spread.
- Progressive extraterritorial symptoms warrant recognition, reassessment, and multidisciplinary management.



PATIENT'S CLINICAL COURSE

2017: RIGHT ANKLE INJURY:
- Initially treated conservatively

2019: INITIAL CRPS-LIKE PRESENTATION
- Abrupt severe right ankle pain with Fixed ankle supination treated with Broström reconstruction + BMAC

2020–2023: SYMPTOM-FREE INTERVAL

2023: RECURRENCE
- Prolonged hike followed by severe right ankle pain

2023–2025: PROGRESSIVE LOCAL DISEASE
- Multiple orthopedic procedures including: Ankle arthroscopy + DeNovo, Tendon reconstruction, Tendon transfer, Tarsal tunnel release, Achilles lengthening and Revision anterior tibial tendon reconstruction

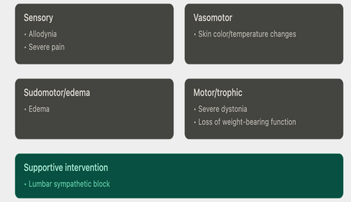
Despite treatment experienced **allodynia, edema, vasomotor changes, dystonia and an inability to bear weight**

2025: MULTILIMB SPREAD
- Right ankle to contralateral ankle
- Diagnosis supported by clinical features consistent with the Budapest criteria.

2025–2026: PROGRESSIVE SPREAD
- Contralateral ankle -> both lower extremities-> Back - > upper extremities.

Present day: GENERALIZED SYMPTOMS
Recurrent severe flares requiring hospitalization for IV ketamine therapy.

Diagnostic Criteria:



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