



COMPLEX REGIONAL PAIN SYNDROME

DR.ALAGU RAJESH

M.S ORTHO (1ST YEAR)

DEPARTMENT OF ORTHOPAEDICS

KIMS

DEFINITION



- ▶ It is a disabling disorder of unknown pathophysiology with a variable complex of syndromes and many hypothesized causes and mechanisms .

SYMPTOMS



- ▶ Exaggerated pain
- ▶ Allodynia
- ▶ Dysesthesia
- ▶ Reduced tolerance of pain when using the affected area for basic function
- ▶ Vasomotor disturbance
- ▶ Hyper hydrosis
- ▶ Osteopenia
- ▶ Tropic skin changes

SYNONYMS OF CRPS



- A. Reflex sympathetic dystrophy
- B. Sudeck atrophy
- C. Causalgia
- D. Algodystrophy
- E. Post traumatic pain syndrome
- F. Painful post traumatic osteoporosis.

ETIOLOGY



- ▶ CRPS usually occurs after a traumatic injury mainly after a fracture or crush injury and after routine surgical procedure .
- ▶ Female predisposition noted.
- ▶ Upper extremity involvement is more frequently noted.

CLASSIFICATION

- ▶ Based on structures injured .
- ▶ Taxonomy Committee classified into two categories .
 - I. **CRPS TYPE 1:** (REFLEX SYMPATHETIC DYSTROPHY) Patients who have had a musculoskeletal injury without a defined neural injury .
 - II. **CRPS TYPE 2 :** (CAUSALGIA) Type 1 with evidence of a neural injury .

BUDAPEST CRITERIA FOR CRPS

Table 1. Budapest Criteria for CRPS

All of the following statements must be met:

- The patient has continuing pain that is disproportionate to any inciting event
- The patient has ≥ 1 sign in ≥ 2 of the categories below
- The patient reports ≥ 1 symptom in ≥ 3 of the symptoms listed below and ≥ 1 sign in ≥ 2 signs listed below
- No other diagnosis can better explain the signs and symptoms

No.	Category	Signs/Symptoms
1	Sensory	<p>Symptoms Reported hyperesthesias and/or allodynia</p> <p>Signs Evidence of allodynia (to light touch and/or deep somatic pressure and/or joint movement) and/or Hyperalgesia (to pinprick)</p>
2	Vasomotor	<p>Symptoms Reported temperature asymmetry and/or skin color changes and/or skin color asymmetry</p> <p>Signs Evidence of the above symptoms</p>
3	Sudomotor/edema	<p>Symptoms Reports of edema and/or sweating changes and/or sweating asymmetry</p> <p>Signs Evidence of the above symptoms</p>
4	Motor/trophic	<p>Symptoms Decreased range of motion and/or motor dysfunction (weakness, tremor, dystonia) and/or trophic changes (hair/nail/skin)</p> <p>Signs Evidence of the above symptoms</p>

CLINICAL FEATURES

IN EARLY PHASE :

- ▶ Dysregulation of ANS which clinically presents as edema , vasomotor effects ,suda motor dysfunction , temperature change and colour change of skin occurred .

IN LATER PHASE :

- ▶ Loss of motion of joint and tropic changes like altered skin texture , hair distribution , reduced nail growth and abnormal contracture , reduced bone mass occurred.

BONICA STAGES OF CRPS

- ▶ Bonica stages serves as a good reference for surgeons.

STAGE 1: DYSFUNCTION

- ▶ **ONSET** : 1 - 3 months
- ▶ **SYMPTOMS** : Burning pain beyond dermatomes , Spasm and tendency for immobilization .
- ▶ **SKIN** : Red , warm ,swollen , dry and inflamed .



STAGE 2: DYSTROPHIC

ONSET : 3 - 7 months

SKIN: Vasoconstriction leads to cool , moist , shiny swelling , Coarse hair , brittle nails , discoloured edema

MOTOR : Tendency for weakness ,tremor and spasticity presents .

Decreased ROM presents

Stage 2 (Dystrophic)



STAGE 3 : ATROPIC

ONSET : > 7 MONTHS

Pain is somewhat decreased .

Less at rest and worse with passive motion .

SKIN : Smoothy , waxy , glossy edematous skin presents .

Pale or cyanotic skin presents .

MOTOR : Atrophy of distal muscles , Spasm , dystonia , tremor and decreased ROM presents .

Lymphedema presents .

Atrophic Stage 3

Contractures
Skin Ulceration



STAGE 4



ONSET : Several months to years .

- ▶ Lose of job in advanced cases .
- ▶ Unnecessary surgery .
- ▶ Orthostatic hypotension .
- ▶ Heart attack
- ▶ Depression and death caused by suicide .

INVESTIGATIONS



- ▶ There is no specific laboratory or bio chemical diagnostic tests .
- ▶ Objective testing (thermography , quantitative sudomotor axonal reflex testing) is not necessary to make diagnosis , but in some cases may be used to support a clinical diagnosis .
- ▶ Radiography studies used to demonstrate reduced bone mass density .

TREATMENT



- A. Pharmacotherapy
- B. Physiotherapy
- C. Interventional Management
- D. Psychologic Evaluation .

PHARMACOTHERAPY



Anti inflammatory medication

Steroids

Analgesics

Tricyclic anti depressants

SSRI

Anti convulsants

INTERVENTIONAL MANAGEMENT

- ▶ **Selective peripheral neural block**
 - **Sympathetic block** (single or sequential) – Stellate ganglion block for upper limb and lumbar block for lower limb
 - **Dorsal column stimulators** – alters neuro chemistry in dorso horns . Its a type of implantable neuro modulation device that is used to send electrical signals to select areas of spinal cord for treatment of certain pain conditions .
 - **Rarely sympathectomies** –chemical or surgical which was offered to patients who have not responded to four sympathetic blocks .

PROGNOSIS

- ▶ Pain relief and improved motion have been reported in 80 % to 93 % patients with CRPS after sequential sympathetic blocks .
- ▶ Although one study reported 19% of temporary responses given by surgical sympathectomy .
- ▶ Most important factor in a favourable outcome was an interval between onset of disorder and start of treatment of less than 6 months .

THANK YOU