Painful Total Knee Replacement

An Update on RSD

Andrew Toms
An Update on RSD

Reflex Sympathetic Dystrophy

It Doesn’t Exist
An Update on RSD
Complex Regional Pain Syndrome

An Update on CRPS
An Update on CRPS

Frustrating – not Black and White

Rare – True CRPS <0.8%

Commonly misdiagnosed

Often Neuropathic pain
Painful Total Knee Replacement

The Unhappy Total Knee Replacement
A Comprehensive Review and Management Guide

Chronic Regional Pain Syndrome (Algodystrophy) in Patients After Knee Replacement
Sufian S. Ahmad and Sandro Kohl
Key Facts

- CRPS is a potential cause of serious post TKR pain.
- Multi modal analgesia for all TKR’s.
- Early diagnosis should be attempted.
- Treatment by specialist multidisciplinary teams
CRPS is not Neuropathic pain

- Neuropathic type pain post TKR
- Is common  6/52 35%
  6/12 20%

KNEE

The natural history of pain and neuropathic pain after knee replacement

A PROSPECTIVE COHORT STUDY OF THE POINT PREVALENCE OF PAIN AND NEUROPATHIC PAIN TO A MINIMUM THREE-YEAR FOLLOW-UP

Bone Joint J 2014;96-B:1227–33.
CRPS criteria

- 1993 Orlando
- IASP
- 2003 Budapest Criteria

Complex Regional Pain Syndrome
<table>
<thead>
<tr>
<th>CRPS I</th>
<th>CRPS II</th>
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<tbody>
<tr>
<td>2-4 of the following with 2, 3, and 4 being mandatory:</td>
<td>All of the following:</td>
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<tr>
<td>1. The presence of an initiating noxious event, or a cause of</td>
<td>1. The presence of continuing pain, allodynia, or hyperalgesia after a</td>
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<tr>
<td>immobilization.</td>
<td>nerve injury, not necessarily limited to the distribution of the injured</td>
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<td>2. Continuing pain, allodynia, or hyperalgesia with which the pain</td>
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<td>is disproportionate to any inciting event.</td>
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**CRPS**, complex regional pain syndrome; **IASP**, International Association for the Study of Pain
Appendix II. Budapest clinical diagnostic criteria for CRPS

(1) Continuing pain, which is disproportionate to any inciting event
(2) Must report at least one symptom in three of the four following categories:
   - Sensory: reports of hyperesthesia and/or allodynia
   - Vasomotor: reports of temperature asymmetry and/or skin color changes and/or skin color asymmetry
   - Sudomotor/edema: reports of edema and/or sweating changes and/or sweating asymmetry
   - Motor/trophic: reports of decreased range of motion and/or motor dysfunction (weakness, tremor, dystonia) and/or trophic changes (hair, nail, skin)
(3) Must display at least one sign at time of evaluation in two or more of the following categories:
   - Sensory: evidence of hyperalgesia (to pinprick) and/or allodynia (to light touch and/or deep somatic pressure and/or joint movement)
   - Vasomotor: evidence of temperature asymmetry and/or skin color changes and/or asymmetry
   - Sudomotor/edema: evidence of edema and/or sweating changes and/or sweating asymmetry
   - Motor/trophic: evidence of decreased range of motion and/or motor dysfunction (weakness, tremor, dystonia) and/or trophic changes (hair, nail, skin)
(4) There is no other diagnosis that better explains the signs and symptoms
(1) Continuing pain, which is disproportionate to any inciting event

- Changes in or skin color asymmetry
- *Sudomotor/logia*: reports of edema and/or sweating changes and/or sweating asymmetry
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Budapest Criteria

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Very Important

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The Budapest Criteria

**Sensory**
- Allodynia (aka pain normally not painful situations such as touch, temperature, or movement)
- Hyperalgesia (heightened pain intensity)

**Vasomotor**
- Differences in skin temperature (greater than 1°C)
- Differences in skin colouration between different sides of the body

**Sudomotor/oedema**
- Changes or asymmetry in swelling
- Changes or asymmetry in sweating

**Motor/trophic**
- Decreased movement
- Motor symptoms (weakness, tremors etc)
- Changes in hair/skin/nails
Look For These...

**Complex Regional Pain Syndrome**

**“STAMP”**

**Sensory**
- allodynia
- hypo-/hyperalgesia
- hypo-/hyperesthesia

**Trophic**
- skin, hair, nail changes

**Autonomic**
- swelling
- edema
- sweating

**Motor**
- weakness
- contractures
- atrophy

**Pain**
Summary

- Treat Pain
- Severe postop pain - consider CRPS
- New criteria
- BUT...
  - Treat early
    - Multidisciplinary
    - Multimodal
- Think STAMP
Thank You

REVIEW ARTICLE
Evaluation of patients with a painful total knee replacement

JBJS 2008;90-B:265-71