Clinical management of paediatric musculoskeletal pain

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Introduction

• Causes paediatric musculoskeletal pain
  – Inflammatory
  – Non-inflammatory biomechanical
  – Pain amplification

• Multidisciplinary Team
  – Biopsychosocial model
  – Medical
  – AHP
  – Psychology

• Concepts
  – Acceptance
  – Movement
  – Coping
Introduction

• Musculoskeletal pain common in childhood
• Wide range of diagnoses - benign to malignant
  – All important
• Early recognition and appropriate treatment prevents damage
  – A stitch in time saves nine
Differential Diagnosis

- Inflammatory
- Non-inflammatory biomechanical
- Pain amplification
Differential Diagnosis - Inflammatory

- Reactive
- Infection
- Inflammatory disease
- Systemic disease
  - Full systems history
- Malignancy
  - Low FBC, high ESR/CRP
  - Bone pain
  - Nocturnal pain
- Irritable hip
  - Rule of 5s
Differential Diagnosis - Mechanical

- Trauma - accidental and NAI
- Hypermobility
- Osteochondritisides
- Degenerative disorders
- Haematological
- Metabolic
- Tumours - benign and malignant
Differential-Pain amplification-and beyond

- Chronic localised/regional pain syndrome
  - Reflex Sympathetic Dystrophy
    - Type 1
    - Type 2 (identified nerve injury - causalgia)
- Chronic generalised pain syndromes
  - ?Fibromyalgia
- Functional illness
Treatment - pain amplification
The Biopsychosocial Model
# Biopsychosocial Model

<table>
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<tr>
<th>BIO</th>
<th>Psycho</th>
<th>Social</th>
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<tr>
<td>Physical</td>
<td>Psychology</td>
<td>Family</td>
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<tr>
<td>Biochemical</td>
<td>Emotional regulation</td>
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<td>Genetic</td>
<td>Trait anxiety</td>
<td>Friends</td>
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<td>Psychopathology</td>
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Treatment- pain amplification

• Multidisciplinary team
  – Medics
  – Physiotherapy
  – Occupational therapy
  – Psychology

• Ideal world
  – All above to see all chronic pain patients
  • Chronic pain teams working without AHP and/or psychologists
Treatment - pain amplification

• Role of medic
  – Listen to patient
    • “passed from pillar to post”
    • Take pain history - family, social, sleep history
  – Examine patient
  – Exclude all other diagnoses
    • May have already been done
    • Be happy with chronic pain diagnosis
  – Stop Investigating!
  – Discussion of chronic pain as a definite diagnosis
    • Leading to parental and patient acceptance of chronic pain diagnosis
    • Concept useful pain v non-useful pain
    • Concept vicious circle
    • Psychology is not psychiatry
Treatment - pain amplification

- Acceptance
  - "how can YOU control my pain" vs "how can I control pain"
  - Active participation is understood
  - Education/understanding of chronic pain
Treatment – pain amplification

- **Drugs**
  - Judicious use does help
  - ?Law of diminishing returns

- **Sleep**
  - Amitriptyline
  - melatonin

- **Muscle pain**
  - NSAIDS, Paracetamol, opiates
  - Rehab?

- **Antiepileptics**
  - Gabapentin
  - Neuropathic pain- nerve damage
  - Initial mild improvement often fades
  - ? Trial needed in other chronic pain settings
Treatment - chronic pain

- Physiotherapy/occupational therapy
  - Regaining movement
  - Paced
  - Function despite pain
Treatment - chronic pain

- Physiotherapy/occupational therapy
  - Muscle control/biomechanics
    - High repetitions
  - Hydrotherapy
    - To regain normal movement
  - Desensitisation
    - Especially local pain syndromes
Treatment - pain amplification

- Normalisation
  - Back to school
  - Re-engage friends/family
  - Focus off pain
- Coping mechanisms
  - Dealing with pain set backs
    - Self management
- Parents as coaches
Treatment

• Role of psychology
  – Acceptance
  – Cognitive behavioural therapy
    • coping
  – Assessment
  – Communication with psychiatry
    • Functional illness
    • Pervasive refusal syndrome
    • psychopathology
Evidence

- Rehabilitation model
- Mostly CRPS
  - More research needed in chronic generalised pain
- Improvement in function and pain in 60-92%
  - Short- and long-term outcomes of children with complex regional pain syndrome type I treated with exercise therapy
  - Reflex sympathetic dystrophy: a multidisciplinary approach
  - Management of pediatric patients with complex regional pain syndrome
Summary

- Differential diagnosis
  - Inflammatory
  - Non-inflammatory
  - Pain amplification
- Multidisciplinary team
  - Biopsychosocial model
  - Medics
  - AHP team
  - Psychology
- Concepts
  - Acceptance
  - Movement
  - Coping
Questions?