

SONIC

Study Of Neuropathic pain In Cancer

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- An EAPC Research Network programme
- Aims to improve the recognition and treatment of neuropathic pain in cancer patients.

Principle collaborators

- **UK**
 - Mike Bennett, Marie Fallon, Lesley Colvin
 - Clare Rayment, Gillian Currie
- **Italy**
 - Augusto Caraceni
- **Norway**
 - Stein Kaasa, Marianne Hjermstad, Nina Aass

What we didn't know

- How common is neuropathic cancer pain?
- Are the mechanisms different from other aetiologies?
- How can we best classify neuropathic pain in cancer
- Can we accurately phenotype cancer pain to determine presence of neuropathic features?
- What is the impact and natural history of cancer NeP?
- What is the current management and what are the clinical outcomes in patients with cancer NeP?
- What future intervention study would have the greatest impact?

What have we done?

1. Determined prevalence

- Prevalence
 - of pain that is neuropathic in origin
 - of patients affected by neuropathic mechanisms
- Aetiology profile of neuropathic pain in cancer patients

2. Reviewed assessment methods

- Against IASP gold standard with at least 3 criteria to establish probable NP
 - Bennett paper = 8/21 prevalence studies
 - Kurita paper = 7/9 clinical trials

3. Reported on associations

- Worse quality of life compared to nociceptive pain
 - Poorer physical, cognitive and social function
 - Cancer and non-cancer populations
- More likely to be on opioids, at higher doses
 - and greater use of adjuvants
- Poorer pain outcomes
 - and longer to titrate analgesia

Rayment et al 2011
Fainsinger et al 2010

4. Begun assessment of screening tool performance

- So far
 - Relatively poor performance in neuropathic cancer pain compared to non-cancer pain
 - Much lower scores
 - fewer positive phenomena in neuropathic cancer pain?
 - greater negative phenomena?
- Next steps
 - Map symptom profiles using LANSS and painDETECT

5. Begun review of animal models

- Collaboration between Leeds and Edinburgh
 - Secured funding for clinical research fellow
- Comparing cancer and non-cancer animal models
 - systematic review of neuronal changes
- Aim to identify unique neuropathic mechanisms in cancer pain and implications for clinical phenotypes
 - bone pain
 - neuropathic pain

6. Preliminary phenotype studies

- Neuropathic symptoms in cancer bone pain

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ORIGINAL REPORT

Neuropathic Pain Features in Patients With Bone Metastases Referred for Palliative Radiotherapy

Marc Kerba, Jackson S.T. Wu, Quill Duan, Neil A. Hagen, and Michael I. Bennett

Laird BJ, Walley J, Murray GD, Clausen E, Colvin LA, Fallon MT. Characterization of cancer-induced bone pain: an exploratory study. *Support Care Cancer* 2010

7. Review of drug treatments

- Part of EAPC opioid guidelines review project
 - Full guidelines in *Lancet Oncology* (in press)
- Review of adjuvants added to opioids
 - Anticonvulsants and antidepressants (Bennett 2011)
 - Ketamine (Bell et al 2011)

What is left to do?

1. Clinical assessment criteria

- Agree and test practical assessment measures for clinical practice and research
 - Guidance on how IASP criteria can apply in cancer pain
 - Screening tool
 - Shortened QST (collaboration with Roman Rolke)

- Can we generate database of profiles based on symptoms and sensory responses?

2. Cancer pain taxonomy

- How should we classify neuropathic cancer pain?
 - Agree important features and assessment approaches within a broader cancer pain classification system

3. Longitudinal study

- Part of the multicentre EPCSS
 - Develop more detailed neuropathic pain module
 - Determine
 - natural history
 - impact on daily living
 - current management

- More detailed phenotyping of cancer bone pain and validation of assessment approaches

4. Test interventions

- Treatment approaches
 - Classification-based versus profile-based
 - Tailored treatments in neuropathic cancer pain?
 - Or combination therapy regardless of mechanisms?
- Link more detailed clinical research with basic science developments
 - targeted drug therapy in neuropathic cancer pain (TRPV₁ and TRPM8 receptors)
 - parallel with denosumab in cancer bone pain

Thank you

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