Novel developments in assessment of Neuropathic pain and Breakthrough pain

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Summary

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- **Neuropathic pain**
  - Current practice lacks precision
  - New guidance is promising but needs testing
  - I'll tell you the details
- **Breakthrough pain**
  - Frankly, it's a mess
  - Some serious work needed to simplify this area
  - I'll spare you the details

Neuropathic pain in cancer patients

Aetiology

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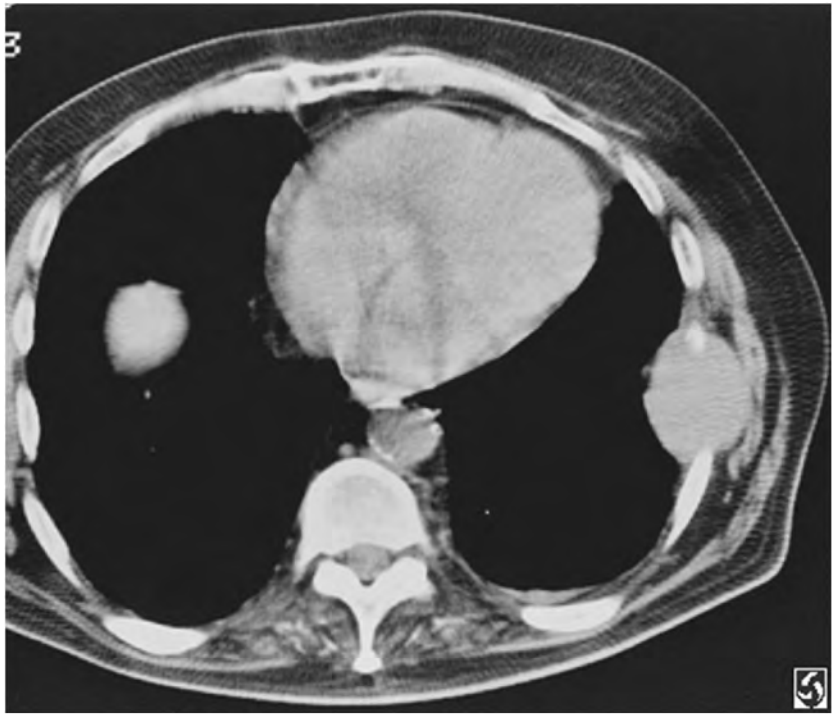
- Standard neuropathic cancer pain



- New types of neuropathic pain in cancer:

Aetiology

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- In developed countries, increasingly larger population of older people with cancer

Aetiology

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- Neuropathic cancer pain?
  - directly caused by cancer
- ....or neuropathic pain in a cancer patient?
  - treatment neuropathies
  - co-morbid conditions
- Need to be clear for epidemiological, clinical and research purposes

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"Is my patient's cancer pain predominantly neuropathic or nociceptive in origin?"

Epidemiology

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IASP

PAIN® 153 (2012) 359–365

PAIN®

www.elsevier.com/locate/pain

Prevalence and aetiology of neuropathic pain in cancer patients: A systematic review

Michael I. Bennett [a,*], Clare Rayment [b], Marianne Hjermstad [c,d], Nina Aass [e,f], Augusto Caraceni [g], Stein Kaasa [h]

- 22 studies, 13,600 patients
- Pain type diagnosed by clinical judgement
- Estimated ‘conservative’ and ‘liberal’ prevalence

Epidemiology

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- Cancer patients have 2 distinct pains, on average:
- 20% of pains in cancer patients are neuropathic in origin
  - 18.7% - 21.4%
- Up to 40% of cancer patients are affected by neuropathic pain
  - 19% - 39.1%

Epidemiology

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- Take 5 cancer patients…..

1	2	3	4	5
Noci **Neurop**	**Noci** **Noci**	**Noci** **Neurop**	**Noci** **Noci**	**Noci** **Noci**

Epidemiology

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- Aetiology of pain in cancer patients…..

	All cancer pain*	Neuropathic pain only**
Direct effect of cancer	76%	64%
Cancer treatment	11%	20%
Indirect effects	5%	4%
Co-morbid conditions	8%	12%

** Grond et al, 1996* ***Bennett et al 2011*

Epidemiology

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***Bennett et al 2011*

Epidemiology

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Neuropathic cancer pain: Prevalence, severity, analgesics and impact from the European Palliative Care Research Collaborative–Computerised Symptom Assessment study

Palliative Medicine
0(0) 1–8

DOI: 10.1177/0269216312464408
pmj.sagepub.com
SAGE

Clare Rayment, Marianne J Hjermstad, Nina Aass, Stein Kaasa, Augusto Caraceni, Florian Strasser, Ellen Heitzer, Robin Fainsinger, Michael I Bennett

1051 patients assessed in 17 European centres

Epidemiology

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Compared to nociceptive cancer pain, NeuP patients had:

- More oncological treatment
- More opioids
- More adjuvant analgesia
- Poorer QOL, reduced performance status
- No overall differences in pain intensity

Fainsinger et al 2010, Rayment et al 2011

Current practice

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ORIGINAL ARTICLE

Diagnosing Neuropathic Pain in Patients with Cancer: Comparative Analysis of Recommendations in National Guidelines from European Countries

Virginie Piano, MD*,†; Stans Verhagen, PhD†,‡; Annelies Schalkwijk, MSc†; Jako Burgers, PhD§; Hans Kress, MD, PhD¶; Rolf-Detlef Treede, PhD‖; Yechiel Hekster, PhD**; Michel Lanteri-Minet, MD*; Yvonne Engels, PhD†; Kris Vissers, MD, PhD†

Pain Practice 2013, 13(6):433-439

Current practice

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- 9 National guidelines identified
    - Italy, UK, France, Netherlands, Spain, Norway

History

- Screening tools (n=2),
- Assessment of aetiology (n=8)
- Pain drawings (n=3)

Examination

- Sensory abnormalities (n=4), QST (n=2)
- Diagnostic test (n=0)

Poor response to opioids (n=4)

NeuPSIG (IASP) grading system for neuropathic pain

Treede et al 2008

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- History:
  1. pain in a neuro-anatomically plausible distribution
  2. relevant lesion or disease

- Examination:
  3. abnormal function
     - bedside examination: numbness, allodynia, hyperalgesia
  4. abnormal structure
     - MRI or ENMG demonstrating site of the nerve lesion

Current practice

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IASP

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Prevalence and aetiology of neuropathic pain in cancer patients: A systematic review

Michael I. Bennett [a,*], Clare Rayment [b], Marianne Hjermstad [c,d], Nina Aass [e,f], Augusto Caraceni [g], Stein Kaasa [h]

IASP

PAIN® 153 (2012) 13–17

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www.elsevier.com/locate/pain

Topical review

How is neuropathic cancer pain assessed in randomised controlled trials?

Geana Paula Kurita [a,b,c,*], Angelika Ulrich [d], Troels Staehelin Jensen [e], Mads Utke Werner [b], Per Sjøgren [a]

Current practice

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- **Summary of 31 studies (n= 13,951)**
- Met both history criteria
  - Distribution plus lesion= 18 / 31
- Met at least one examination criteria
  - Abnormal function = 20 / 31
  - Abnormal structure = 8 / 31
- Reached at least probable NP
  - 15 of 31 studies

Current practice

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- What is the effect of more rigorous assessment on prevalence estimates?
  - In 14 non-rigourous studies:
    - 20% (pure) to 39.1% (mixed)
  - In 8 rigorous studies:
    - 13.2% (pure) to 35.8% (mixed), **p<0.001**

Confirming neuropathic pain in cancer patients:

applying the NeuPSIG grading system in clinical practice and clinical research

- Matthew R. Mulvey
- Roman Rolke
- Pål Klepstad
- Augusto Caraceni
- Marie Fallon
- Lesley Colvin
- Barry Laird
- Michael I. Bennett

PAIN 2014 (in press)

- Applying the grading system in clinical practice
  - The grading system is simple to adapt for clinical practice

- Some test serve a dual purpose, for example:

  - Delineating area of pinprick hyperalgesia determines the distribution of pain (criterion 1) and confirms sensory abnormalities (criterion 3)

  - CT scan showing tumour growth compressing a nervous structure demonstrates a history of a relevant lesion (criterion 2) and provides an additional objective confirmatory test (criterion 4).

EAPC RN Delphi survey

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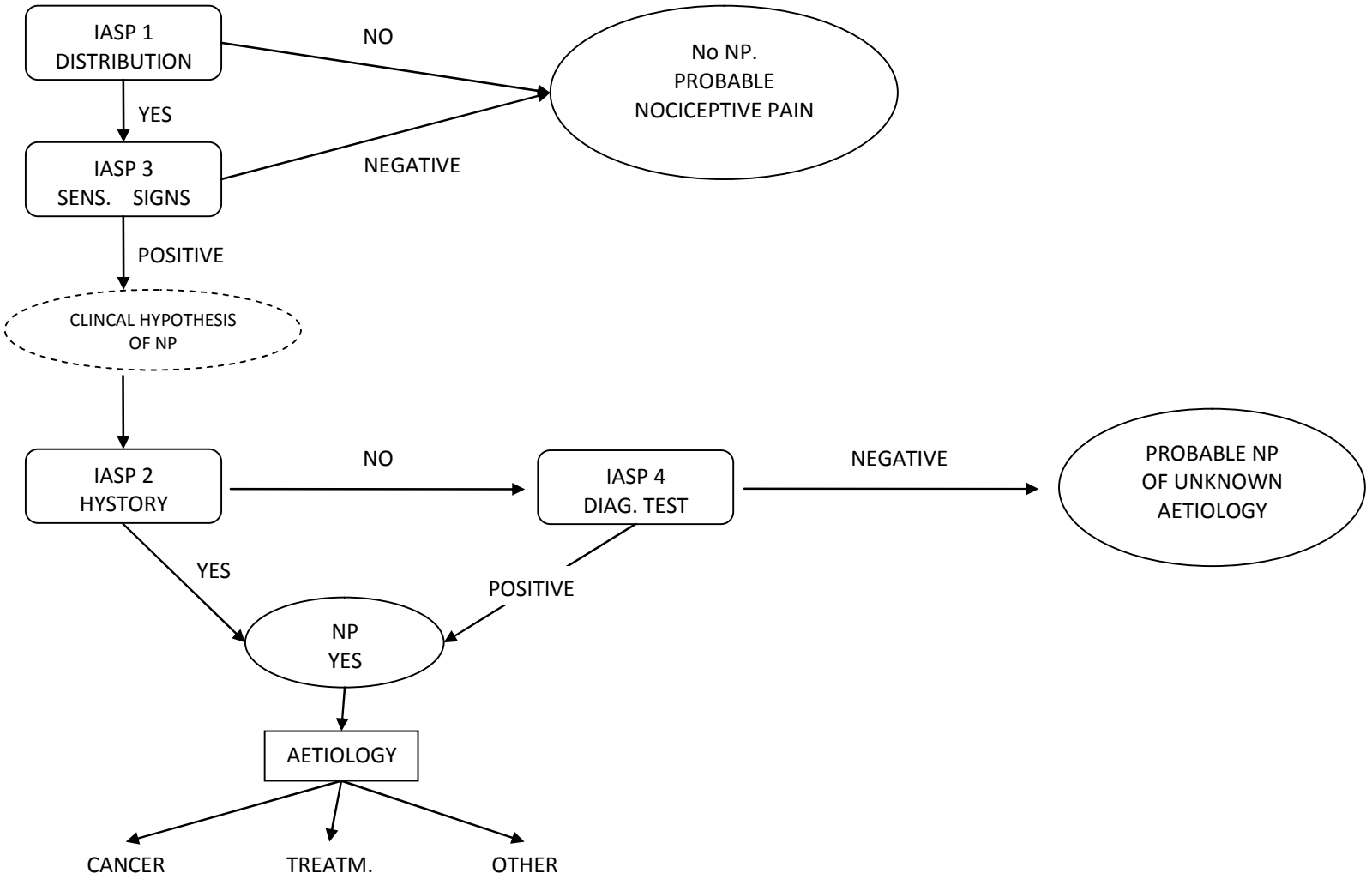

Symptoms

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Is there a role for verbal description or screening tools in the assessment process?

Can the LANSS scale be used to classify pain in chronic cancer pain trials?

Support Care Cancer. 2013 Dec;21(12):3387-91

Hardy J, Quinn S, Fazekas B, Agar M, Currow D.

When the clinical assessment was compared with the LANSS scale, the overall accuracy was 94 % (79/84).

Non-cancer NP v Cancer NP

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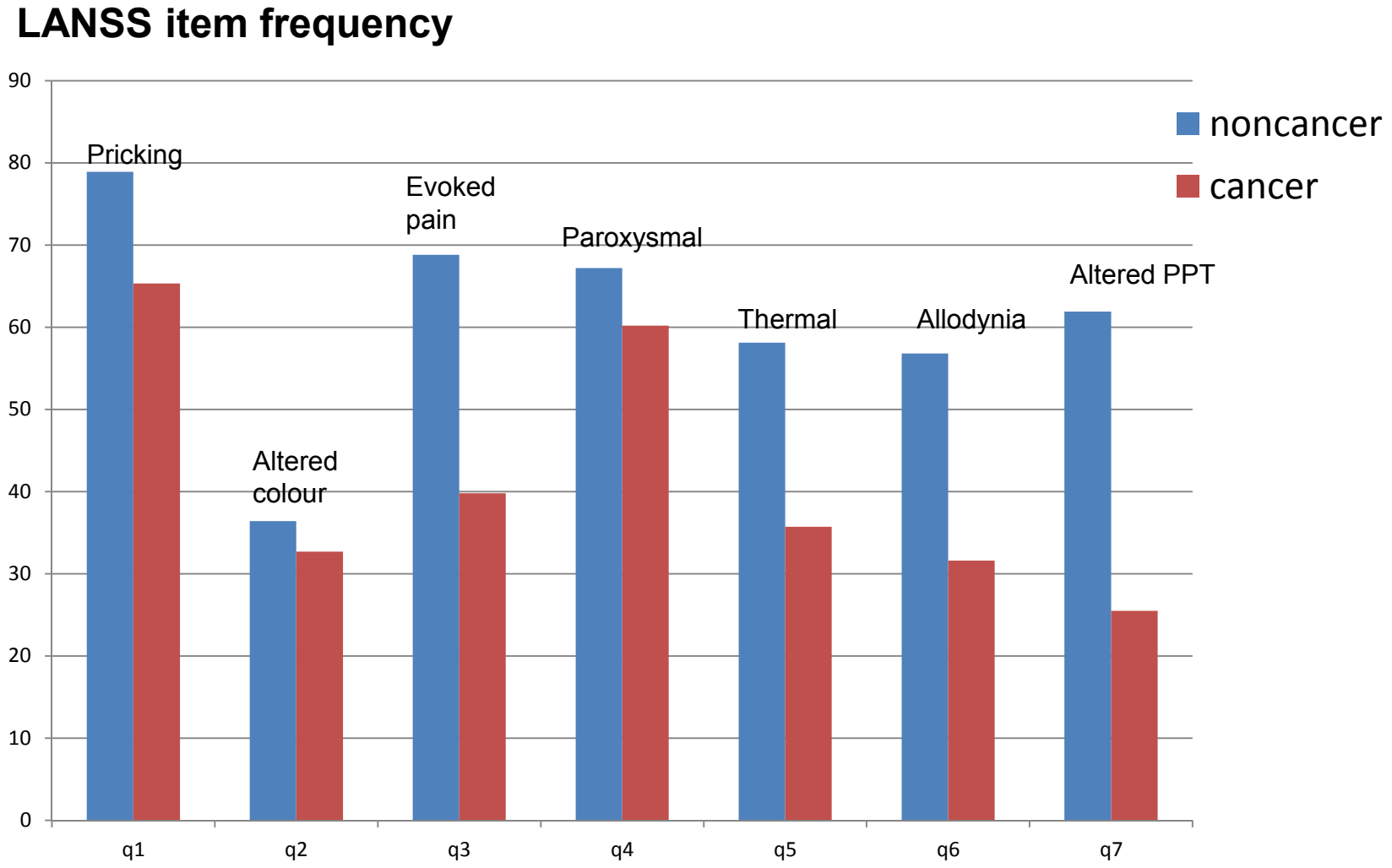

Breakthrough pain

Assessment algorithm

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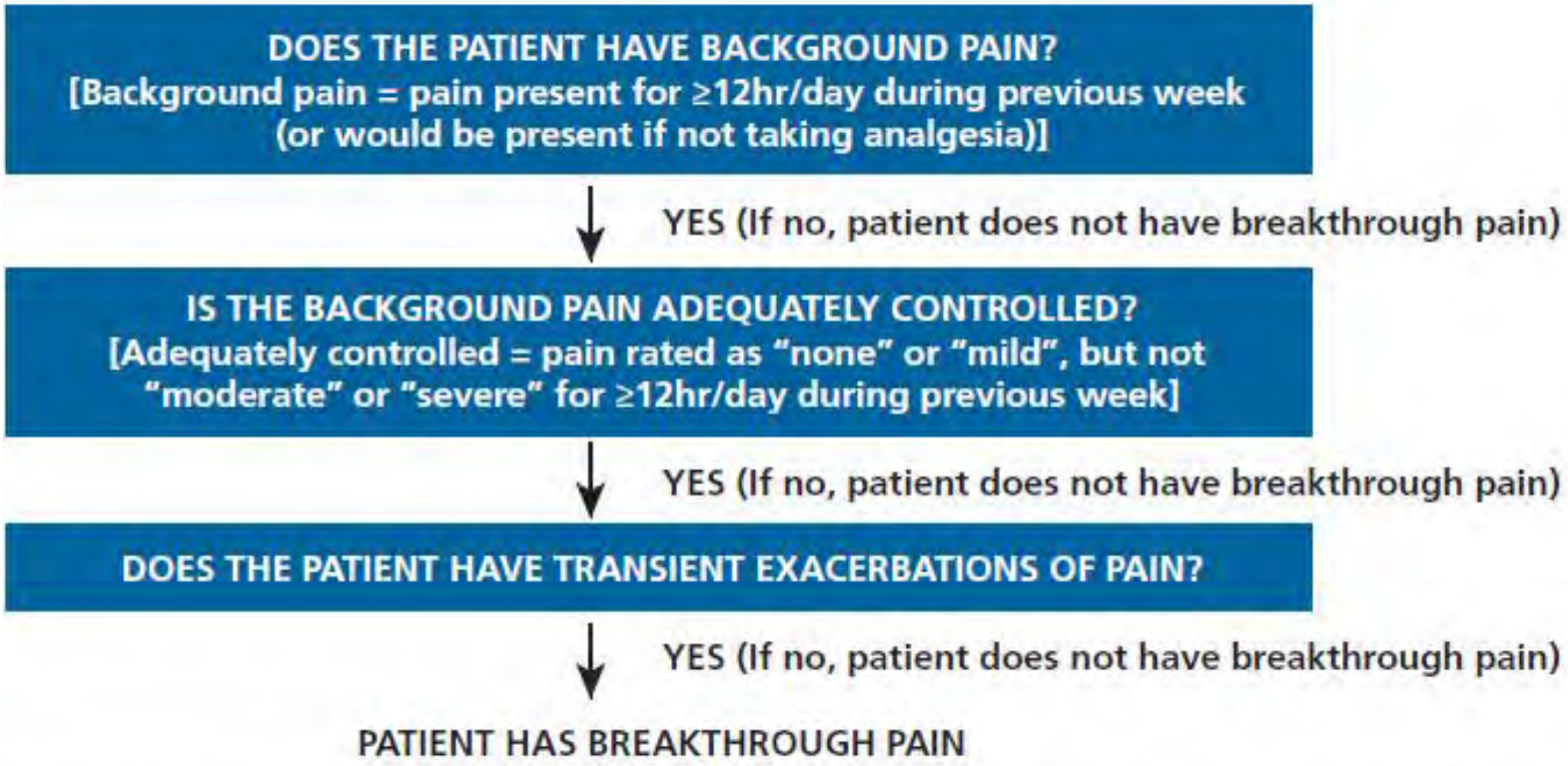


Figure 1 Algorithm for diagnosing patients with breakthrough pain. Reprinted from Davies AN, Dickman A, Reid C, et al. The management of cancer-related breakthrough pain: recommendations of a task group of the Science Committee of the Association for Palliative Medicine of Great Britain and Ireland. Eur J Pain 2009;13:331–338, with permission from Elsevier.

IASP®

PAIN® 149 (2010) 476–482

PAIN®

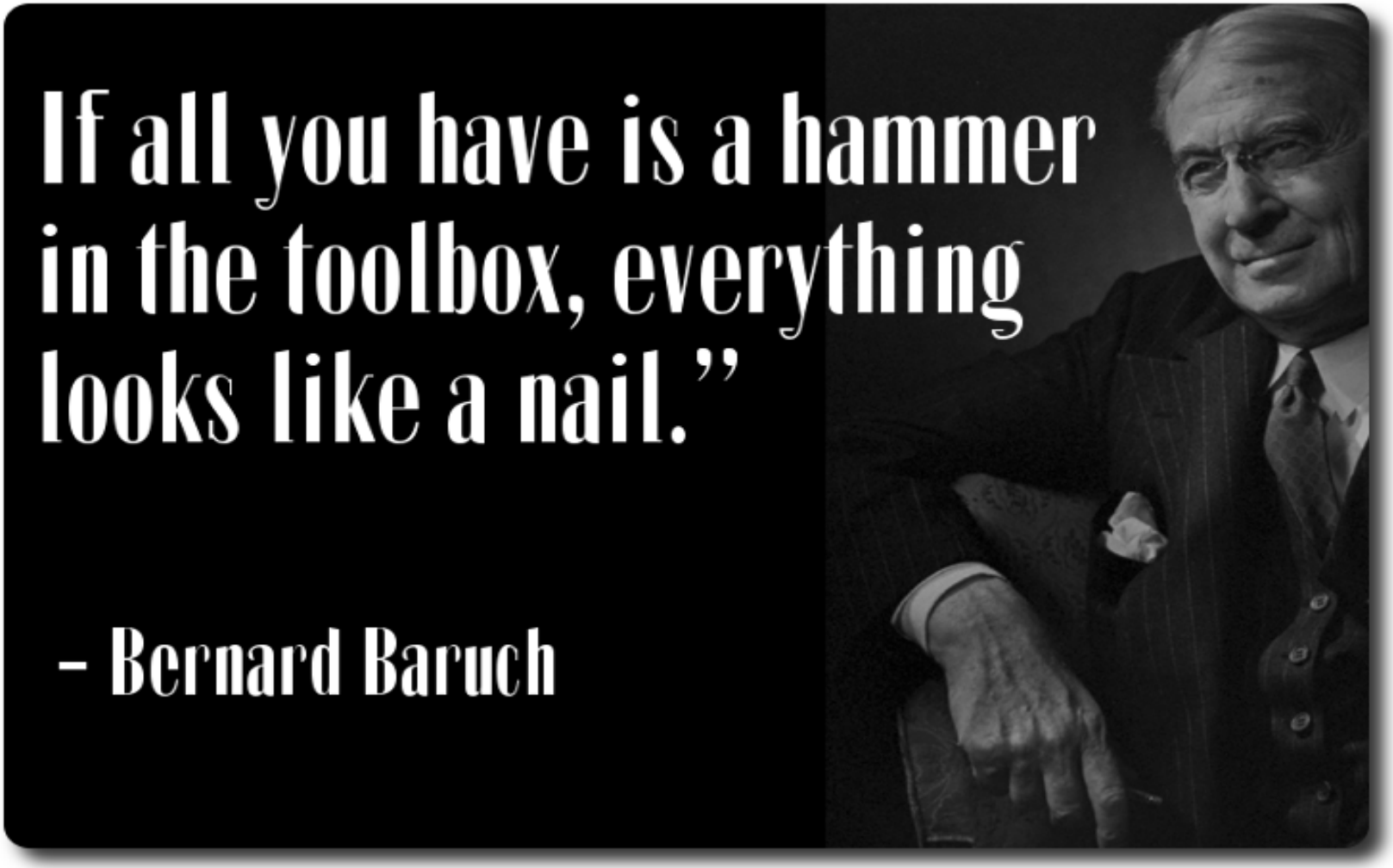
www.elsevier.com/locate/pain

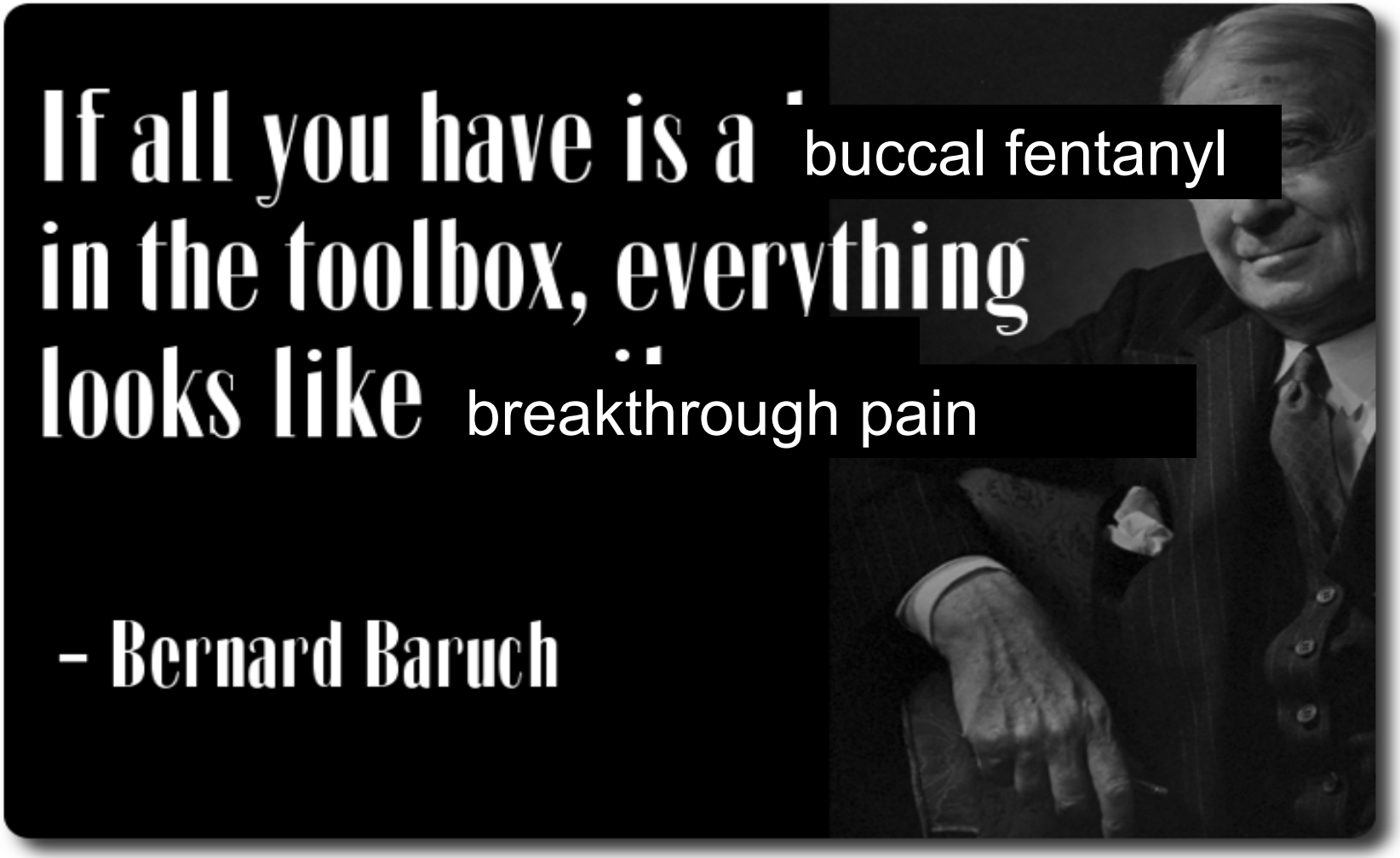
Assessment and classification of cancer breakthrough pain: A systematic literature review

Dagny Faksvåg Haugen [a,b,*], Marianne Jensen Hjermstad [a,c], Neil Hagen [d], Augusto Caraceni [e], Stein Kaasa [a,f], On behalf of the European Palliative Care Research Collaborative (EPCRC)

Table 1
Classification of breakthrough pain: areas of high and low degree of consensus.

Area	Summary of consensus points
Term to be used	Breakthrough pain
Etiology	Caused directly by the cancer
	Caused indirectly by the cancer
	Unrelated to the cancer disease; caused by concurrent illness, or unknown/uncertain
Pathophysiological mechanism	Somatic
	Visceral
	Neuropathic
	Mixed
Type or subtype	Incident pain (precipitated)
	Volitional (predictable)
	Non-volitional (predictable or unpredictable)
	Spontaneous/idiopathic pain (stimulus-independent, unpredictable)
	End-of-dose failure
Area	Main points of disagreement
Definition	Is opioid treatment a prerequisite for diagnosing BTP?
	Is controlled baseline pain a prerequisite for diagnosing BTP, and how should controlled baseline pain be defined?
	Should end-of-dose failure be included in BTP?
Formal classification system	(No formal classification system exists)


If all you have is a hammer in the toolbox, everything looks like a nail."
– Bernard Baruch


If all you have is a buccal fentanyl
in the toolbox, everything
looks like breakthrough pain
– Bernard Baruch

- EAPC RN project on breakthrough pain classification and assessment
  - More news next year!

Thank you

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