What else is new?

DR ANDREW DAVIES
Outline
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- Opioids and nightmares / vivid dreams
- Gabapentinoids and abuse / addiction
- Vitamin C for cancer pain
Opioids and nightmares / vivid dreams
Opioids and nightmares / vivid dreams

“To die, to sleep - to sleep, perchance to dream - ay, there’s the rub, for in this sleep of death what dreams may come...”
Opioids and nightmares / vivid dreams

Observational study of sleep disturbances in advanced cancer

Andrew Neil Davies,¹ Shuchita D Patel,¹ Amanda Gregory,² Bernadette Lee³
Opioids and nightmares / vivid dreams

Nightmares:
- 18% (previous month)
- Younger age
- Not ECOG performance status
- Physical symptoms (MSAS-SF)
- Psychological symptoms (MSAS-SF)
- Poor sleep quality (PSQI)
Opioids and nightmares / vivid dreams

Nightmares:
- No association with current use opioids ($p = 0.295$)
Opioids and nightmares / vivid dreams

Vivid dreams:
- 34.5% (previous month)
- Younger age
- Not ECOG performance status
- Psychological symptoms (MSAS-SF)
- Poor sleep quality (PSQI)
Opioids and nightmares / vivid dreams

Vivid dreams:

- No association with current use opioids (p = 1.000)
Opioids and nightmares / vivid dreams

Nightmare treatment:
❖ Opioid switching
❖ Haloperidol

❖ Management physical symptoms
❖ Management of psychological symptoms
❖ Management of poor sleep quality
Opioids and nightmares / vivid dreams

Nightmare treatment:
- Cognitive behavioural therapy - Image Rehearsal Therapy
- Progressive deep muscle relaxation
- (Pharmacological interventions)
Gabapentinoids and abuse / addiction
Gabapentinoids and abuse / addiction

7800 MG of Gabapentin, an 8th of weed and some 4lokos. I feel amazing...
Gabapentinoids and abuse / addiction

Advice for prescribers on the risk of the misuse of pregabalin and gabapentin
Gabapentinoids and abuse / addiction

“Professionals prescribing pregabalin and gabapentin should be aware not only of the potential benefits of these drugs to patients, but also that the drugs can lead to dependence and may be misused or diverted”.

“Less harmful, alternative drugs can often be first-line treatments for the indicated conditions for which pregabalin and gabapentin are now used, and may be tried preferentially in higher risk settings or in patients who may be more likely to be harmed by the drugs”.
Gabapentinoids and abuse / addiction

❖ 1 million prescriptions

❖ 10.5 million prescriptions
Gabapentinoids and abuse / addiction

- 4301 cases misuse / abuse / dependence
- 4.8% adverse drug reactions
- (Female > male)

EudraVigilance Database – Pregabalin (2006-15):
- 7639 cases misuse / abuse / dependence
- 6.6% adverse drug reactions
- (Female > male)
Gabapentinoids and abuse / addiction
Gabapentinoids and abuse / addiction

UK general population 16-59 yr (2014):
❖ 1.1% life-time abuse gabapentin
❖ 0.5% life-time abuse pregabalin

Scottish methadone-maintenance patients (2014):
❖ 22% abused gabapentinoids

Risk factors
❖ History previous abuse / addiction
❖ Psychiatric disease
Gabapentinoids and abuse / addiction
Gabapentinoids and abuse / addiction

What are the effects of gabapentin?

Gabapentin can produce feelings of relaxation, calmness and euphoria. Some users have reported that the ‘high’ from snorted gabapentin can be similar to taking a stimulant.

Gabapentin may also enhance the euphoric effects of other drugs, like opiates, and is likely to increase the risks when taken in this way.

What are the effects of pregabalin?

Pregabalin can produce feelings of euphoria, relaxation and calmness. It can also enhance/increase the euphoric effects of other drugs, like opiates.
Gabapentinoids and abuse / addiction

Bristol Drugs Project (2014-15):

- 21 / 30 heroin addicts had used gabapentinoids
- Easy to obtain
- Pregabalin > gabapentin (usage / preference)

- Variable frequency
- Oral route
- 300-1500 mg
- £2 for 300 mg tablet
Gabapentinoids and abuse / addiction

Bristol Drugs Project (2014-15):
- Enhances effect of heroin
- Might reduce usage of heroin
- Causes loss of control
- Causes blackouts
- Increased risk of overdose
Gabapentinoids and abuse/addiction
Gabapentinoids and abuse / addiction
Gabapentinoids and abuse / addiction
Vitamin C for cancer pain
Vitamin C for cancer pain

❖ Myalgia
❖ Bone pain
❖ Neuropathy
An open-label pilot study of oral vitamin C as an opioid-sparing agent in patients with chronic pain secondary to cancer

E Pinkerton¹ · P Good² · K Gibbons³ · J Hardy¹
Vitamin C for cancer pain

“This study failed to demonstrate any clinically significant benefit from vitamin C in conjunction with opioids in cancer-related pain and does not provide support for embarking on a larger randomised trial to determine efficacy”.
Vitamin C for cancer pain
The role of vitamin C in the treatment of pain: new insights

Anitra C. Carr\textsuperscript{1*} and Cate McCall\textsuperscript{2}
“Overall, vitamin C appears to be a safe and effective adjunctive therapy for acute and chronic pain relief in specific patient groups”.
Vitamin C for cancer pain

<table>
<thead>
<tr>
<th>Study type</th>
<th>Intervention</th>
<th>Findings</th>
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<tbody>
<tr>
<td>Uncontrolled prospective</td>
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<tr>
<td>Advanced cancer [90]</td>
<td>0.6–3 g IV vitamin C/kg body weight (N = 17) 4 days/week for 4 weeks</td>
<td>Before: 36% pain (N = 17)</td>
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<td>Week 1: 31% pain (N = 16)</td>
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<td>Week 2: 30% pain (N = 12)</td>
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<td>Week 3: 30% pain (N = 7)</td>
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<td>Week 4: 19% pain (N = 2)</td>
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<td>(EORTC QLQ)</td>
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<tr>
<td>Advanced cancer [89]</td>
<td>25–100 g IV vitamin C (N = 60) twice weekly for 4 weeks</td>
<td>Before: 18% pain</td>
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<td></td>
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<td>Week 2: 14% pain</td>
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<td>Week 4: 10% pain</td>
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<td>(EORTC QLQ)</td>
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<td>Terminal cancer [81]</td>
<td>10 g IV vitamin C (N = 39) twice over 1 week 4 g/day oral vitamin C for 1 week</td>
<td>Before: 30% pain</td>
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<td>Week 1: 21% pain</td>
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<td>(EORTC QLQ)</td>
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<td>Controlled retrospective</td>
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<tr>
<td>Bone metastases [24]</td>
<td>i. Control (N = 9)</td>
<td>i. 7% pain (VAS)</td>
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<td>ii. Chemotherapy (N = 15)</td>
<td>ii. 0-100% ↓ pain</td>
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<td>ii. 0-100% ↓ pain, mean 50% ↓ pain</td>
<td>ii. 15% pain</td>
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<td>Breast cancer [97]</td>
<td>i. Control (N = 72)</td>
<td>i. 10% pain* (intensity of complaints during adjuvant therapy)</td>
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<td>ii. 7.3 g IV vitamin C (N = 53) once weekly for ≥ 4 weeks</td>
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<td>Uncontrolled retrospective</td>
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<tr>
<td>Bone metastases [33]</td>
<td>2.5 g IV vitamin C (N = 11) once weekly for 3–10 weeks</td>
<td>0–100% ↓ pain (VAS), mean 40% ↓ pain</td>
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<tr>
<td>Case report</td>
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<tr>
<td>Breast cancer [133]</td>
<td>50 g IV vitamin C twice weekly for 4 weeks</td>
<td>Before: 1% pain</td>
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<td>After: 8% pain</td>
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<td>(EORTC QLQ)</td>
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<tr>
<td>Terminal cancer [95]</td>
<td>30 g/day IV vitamin C for 1 week</td>
<td>Before: 1% pain</td>
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<td>After: 0% pain</td>
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<td>Metastatic breast cancer [81]</td>
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<td>Breast cancer with skeletal metastases—severe pain [93]</td>
<td>10 g/day oral vitamin C for 10 days</td>
<td>Pain relief for &gt;1 year</td>
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<td>5 g/day IV vitamin C for 7 days</td>
<td>Complete ↓ bone pain from day 4</td>
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<td>8 g/day oral vitamin C for 10 days</td>
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<tr>
<td>Bladder cancer with skeletal metastases—intermittent pain [91]</td>
<td>10 g/day IV vitamin C for 10 days</td>
<td>Dramatic ↓ bone pain</td>
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<td>10 g/day oral vitamin C for 7 days</td>
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<tr>
<td>Breast cancer with osteolytic metastases—severe bone pain [81]</td>
<td>10 g/day IV vitamin C for 7 days</td>
<td>Complete ↓ bone pain</td>
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<td>10 g/day oral vitamin C for 10 days</td>
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EORTC QLQ: European Organisation for the Research and Treatment of Cancer Quality of Life Questionnaire, IV Intravenous, VAS visual analogue scale

* P ≤ 0.05
Vitamin C for cancer pain

Limitations current studies:

- Methodology – design (RCT)
- Methodology – population (pre treatment blood test – vitamin C)
- Intervention – effective (small doses, frequent doses)
- Assessment intervention – appropriate (post treatment blood test)
- Assessment response – appropriate (validated pain tool)
Vitamin C for cancer pain

There is a fruit by the name of Black Sapote or "chocolate pudding fruit" which tastes like chocolate pudding and is actually low fat and has about "4 times as much vitamin C as an orange"
Vitamin C for cancer pain

Vitamin C deficiency (epidemiology):
❖ Elderly
❖ Unwell patients
❖ Cancer patients
  – disease
  – treatment
❖ Palliative care patients – 30%
❖ (Body stores depleted)
Vitamin C for cancer pain

Vitamin C deficiency (analgesia):

❖ No consensus

❖ Anti-oxidant effect
❖ Anti-inflammatory effect
❖ Co-factor synthesis neurotransmitters – catecholamines, serotonin
❖ Co-factor synthesis endomorphins (opiod neuropeptides)
❖ Co-factor synthesis calcitonin

❖ (Placebo effect)
Vitamin C deficiency (mouse):
- Analgesic per se
- Synergistic effect with opioids (morphine)
- Reduces morphine self administration
- Prevents morphine tolerance
- (Prevents morphine dependence)
- (Decreases morphine withdrawal)
Vitamin C for cancer pain

An apple a day keeps the doctor away.
Especially if you throw hard and your aim is good.

someecards user card
Conclusion
Conclusion
“Humanly speaking, the path of improvement which I have attempted imperfectly to indicate, would seem at present to lie far more in the better use of weapons long ready to our hand, than in the discovery of new. No one can pretend that the former have hitherto been employed in other than the most feeble and half-hearted fashion”.

*Herbert Snow, 1893*