Helping to ease the pain with R / RMarkdown

Peter Kamerman

SATRDAY, Cape Town, 18 February 2017
2 n-grams of journal article titles from PAIN (2010 - 2017)
Difficult to treat

Atypical pain medicines
- Anti-depressants
- Anti-convulsants
Goal

Apply to have medication included on WHO Essential Medicine List
RMarkdown
http://rmarkdown.rstudio.com
RMarkdown
http://rmarkdown.rstudio.com

Web content

PDF report
Create a storyboard

Flexdashboard

htmlwidgets
Create a storyboard
Flexdashboard and htmlwidgets
Create a storyboard

Imagine having a pain that has been described as being ‘Worse than death’. A pain that may feel like your skin is on fire, and at the same time the painful area may be numb. In some cases even the lightest of touches, such as your clothes on your skin, may be excruciatingly painful. This is what it can feel like to have neuropathic pain.

This storyboard will introduce you to this unusual type of chronic pain and its treatment.

**Navigation:** Every section of the storyboard consists of an interactive plot on the left (try it out by hovering your mouse arrow over the adjacent plot), and a text panel on the right. The text panel expands on the question stated in the numbered navigation panel above, and provides a legend for the figure. The figure provides illustrative data that complements the text.

**Interactive plot:** What does neuropathic pain feel like?

The plot shows the relative frequency of terms used by 89 individuals with various causes of nervous system injury (e.g., traumatic nerve injury, post-herpetic neuralgia, polyneuropathies, stroke pain; block size is proportional to frequency). ‘Burning’ was the most commonly used term, but most patients use several terms to describe their pain.
Create a report

Lots of time on... StackExchange
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Cover page

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Layout

Gabapentin for Neuropathic Pain

An application to the 61st meeting of the WHO Expert Committee on Selection and Use of Essential Medicines for the inclusion of gabapentin on the WHO Model List of Essential Medicines

Submitted by
International Association for the Study of Pain (IASP)
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www.who.int/selection_medicines/...
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## Summary of efficacy and safety across first-line medications

Table 2 summarises the benefits and harms of gabapentinoids based on our systematic review and network meta-analysis. For comparison, we have also included the data for other medications we recommended as tier 1 (a) in a previous summary of the GRADE analysis for gabapentinoids only, summarised in Table A4. Based on the balance of the evidence, we recommended gabapentin, pregabalin, TCAs and SNRIs as first-line treatments; the updated treatment search in 2016 did not change our recommendations. When making our original recommendations, we stated that there was no evidence for any of the agents having superior efficacy or for the specific use of neuropathic pain, and this was not updated recently.

### Table 2: Summary of efficacy and adverse events reported by Anoop et al. [2012](2)

<table>
<thead>
<tr>
<th>Medication</th>
<th>Number needed to treat (NNT)</th>
<th>Number needed to harm (NNH)</th>
<th>Number needed to harm (NNH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLR</td>
<td>3.7</td>
<td>1.9</td>
<td>11.3</td>
</tr>
<tr>
<td>Gabapentin</td>
<td>6.3</td>
<td>17.0</td>
<td>10.3</td>
</tr>
<tr>
<td>Pregabalin</td>
<td>8.8</td>
<td>13.0</td>
<td>11.5</td>
</tr>
<tr>
<td>SNRIs</td>
<td>7.5</td>
<td>14.0</td>
<td>15.0</td>
</tr>
</tbody>
</table>

In their guideline on the management of neuropathic pain, NCNP presented a heat map of relative benefits and harms of the medications they assessed. Figure 1 provides a summary of the guidelines, which includes recommendations as first-line therapy by NCNP [4] and others [5,6].

### References

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Best of all…share