**Title:**

Association of gabapentinoids with the risk of opioid-related adverse events in patients with chronic respiratory disease

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**Background Information:**

In December 2019, the United States Food and Drug Administration issued a warning regarding the concerning association between gabapentinoid use and respiratory depression.1 A 2017 systematic review examining gabapentinoid misuse demonstrated an increased association with patient harm and opioid-related overdose.2 A 2017 retrospective analysis of hospitalized patients receiving naloxone and opioids (non-gabapentinoid group) compared to patients receiving naloxone, opioids, and gabapentinoids (gabapentinoid group) showed that there was no greater association of respiratory depression with the concomitant use of opioids and gabapentinoids compared to opioids alone.3 With many North Carolinians impacted by both chronic pain and chronic respiratory disease, there exists a perceived threat of respiratory depression in those on opioids and concomitant gabapentinoids.

**Objective**

To evaluate the association between opioids, concomitant gabapentinoids, and the prevalence of respiratory depression in patients with chronic respiratory disease and chronic pain.

**Methods**

This was a retrospective, multi-center, observational study evaluating patients with a diagnosis of chronic respiratory disease and chronic pain who required at least one dose of naloxone in an emergency department. The primary outcome is the proportion of patients on opioids who are also on concomitant gabapentinoids. Secondary outcomes include admission to hospital, length of stay, morphine milligram equivalents, death, and development of pneumonia.

**Preliminary Results**

A total of 213 patients with chronic respiratory disease, chronic pain, and on current opioid therapy were included in the study. Of the total 213 total patients on opioid therapy, 147 (69%) were on concomitant gabapentinoid therapy. No different was found in admission to hospital, length of stay, morphine milligram equivalents, and development of pneumonia. Less than 10% of patients were discharged with a prescription for naloxone.

**Conclusion**

More than half of the patients needing naloxone for respiratory depression in the emergency department were on concomitant gabapentinoids. This association poses future questions regarding the safety profile of gabapentinoids in patients with chronic respiratory disease. While no differences were found in secondary outcomes, the data from this study identify the need for increased prescribing habits of naloxone for home use.

**References**

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2. Evoy KE, Sadrameli S, Contreras J, Covvey JR, Peckham AM, Morrison MD. Abuse and Misuse of Pregabalin and Gabapentin: A Systematic Review Update. Drugs. 2021 Jan;81(1):125-156.
3. Savelloni J, Gunter H, Lee KC, Hsu C, Yi C, Edmonds KP, Furnish T, Atayee RS. Risk of respiratory depression with opioids and concomitant gabapentinoids. J Pain Res. 2017 Nov 10;10:2635-2641.