The Use of Gabapentin to Treat Pruritus Associated With Burns in a Pediatric Patient

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INTRODUCTION

- Pruritus is a common symptom in burn patients with an incidence between 80-100%.
- Partial thickness wounds cause the most itch, peaking at 1-2 weeks after initial injury.
- Pruritus is distressing for patients, who often are more uncomfortable from itching than from actual burn pain. Antihistamines, the mainstay treatment prior to 2004, provided itch relief in only 20% of patients.
- Since 2004, antiepileptics such as gabapentin have emerged as promising adjuncts to alleviate pruritus from burn injuries.
- Many studies in burn literature report use of gabapentin for pruritus, but there is a relative paucity of studies published in anesthesia or pain medicine literature.
- Our report involves a patient who received relief of pruritus after treatment with gabapentin.

CASE REPORT:

- 7-year-old female with 27% TBSA 2nd and 3rd degree flame burns whose pain was initially treated with morphone and subsequently methadone.
- On day 23 of admission, the pediatric pain service was consulted to assist with a methadone wean.
- She complained of severe pruritus from her burn injuries, unrelieved by antihistamines and emollients.
- Gabapentin 20 mg/kg q8hr was initiated for pruritus.

REFERENCES

4. Fehrenbacker JC et al. Pregabalin and gabapentin reduce release of substance P and CGRP from rat spinal tissues only after partial thickness wounds cause the most itch, peaking at 1-2 weeks after initial injury. These similarities led researchers to investigate the effects of various pain medications on pruritus.
5. As of yet, no data showing lowest effective dose when treating pruritus.

DISCUSSION

- Understanding the signaling pathways of itch can help guide treatment.
- Pruritus and pain share similar transmission pathways to the brain, with detection by nerve terminals of primary afferent C fibers leading to signal transmission to the thalamus, via the spinal cord dorsal horn and spinothalamic tract.
- These similarities led researchers to investigate the effects of various pain medications on pruritus.
- Through mechanisms not completely understood, gabapentin often quelled pruritic symptoms.
- It is hypothesized that gabapentin’s effect on pruritus may be both centrally and peripherally mediated.
- It is known to inhibit calcitonin gene-related peptide, which is a mediator of itching.
- As of yet, no data showing lowest effective dose when treating pruritus.
- Given the relatively low side effect and favorable safety profiles when used in the pediatric population, gabapentin should be in every anesthesiologist’s arsenal of possible medications that can be used to combat post-burn pruritus.