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The Mortar & Pestle:

MD Custom Rx's monthly e-newsletter

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Greetings!

Thank you for entrusting in the compounding services at MD Custom Rx to help meet the unique medication needs of your patients. We are excited to share our monthly newsletter with you and look forward to continuing to be your medication problem solvers. Please don't ever hesitate to let us know how we can be of further assistance to you and your practice.



Sincerely,
Dan, Monica and John

Topical Treatments for Localized Neuropathic Pain

Topical therapies in localized neuropathic pain (LNP) syndromes are increasingly used by both specialists and general practitioners. The benefits of topical treatments include relatively few systemic side effects or drug-drug interactions and satisfactory efficacy.

Topical medications produce a clinically useful concentration at only the site of application without systemic concentrations, while transdermal routes produce their analgesic effect by entering the systemic circulation and include the same adverse effects as systemic administration. A variety of agents are used in the topical treatments of LNP, such as anesthetic agents, muscle relaxants, anti-inflammatory, antidepressant drugs or even a combination of them in various applications, and they offer promising results.



Baclofen is a muscle relaxant traditionally used for the systemic treatment of spasticity. The topical application of baclofen in cases of LNP offers the potential of pain reduction due to its GABAB receptor agonist features.

Case reports describe some efficacy of topical 5-10% amitriptyline applications in diabetic polyneuropathy (DPN), chronic idiopathic axonal polyneuropathy, Complex Regional Pain Syndrome and post-traumatic neuropathic pain. Also, the efficacy of 0.1% topical clonidine application has been evaluated in cases of DPN, providing a possible contribution to pain relief with no systemic absorption.

Topical application of non-steroidal anti-inflammatory drugs (NSAIDs) produces a high concentration in the dermis and muscles (equivalent to that obtained via the oral route) with minimal systemic

absorption and plasma concentrations less than 5% of that produced by systemic delivery.

[Curr Pain Headache Rep. 2017 Mar;21\(3\):15.](#)

Advantages of Topical Analgesics

There are a number of advantages of using topical analgesics over oral analgesics, such as the following:

- Local application only on the pain area where relief is needed
- Fast onset of action
- Higher concentration of the analgesic in the pain area
- Low or no systemic drug levels
- Absence of systemic side effects
- Absence of drug-drug interactions
- Ease of implementing in multimodal therapies
- Ease of combining more analgesics in one vehicle to obtain synergies
- Improvement of compliance
- No risk of dependency or abuse

The complex interactions between nociceptors, immunocompetent cells, and epithelial cells support the use and evaluation of combining different APIs in topical formulations. Combining an active drug with another drug that on its own accord would not lead to efficacy can result in a superior therapeutic principle owing to synergistic mechanisms. Single compound approaches might have worked in the past for a number of disorders, although for the treatment of complex disorders based on interactive networks of factors, combinations of drugs improve the chances of achieving a good therapeutic response.

Optimization of the formulation by use of the proper base/vehicle for topical or transdermal delivery is essential to achieve the best therapeutic response.

[J Pain Res. 2017 Mar 20; 10:635-641.](#)

Topical Phenytoin for Treatment of Neuropathic Pain

Neuropathic pain can be debilitating and significantly reduces quality of life. The use of topical phenytoin for the reduction of pain due to superficial burns and chronic leg ulcers is well documented. Topical phenytoin is also known to accelerate wound healing. However, the analgesic effect of topical phenytoin in neuropathic pain is underreported. Kopsky and Keppel Hesselink of the Institute for Neuropathic Pain in Amsterdam developed and tested topical phenytoin 5% and 10% creams in three patients suffering from refractory neuropathic pain. In all patients, phenytoin cream eliminated pain completely, without any side effects, and the tolerability was excellent. The onset of action of the phenytoin creams was within 30 minutes. Based on the results, they suggested that phenytoin cream might become a new treatment modality for neuropathic pain.



[J Pain Res. 2017 Feb 27;10:469-473.](#)

Topical Gabapentin as Add-on Therapy for Trigeminal Neuralgia.

Trigeminal neuralgia is a painful process especially affecting the elderly, a population prone to suffering adverse effects following systemic administration of drugs. The use of topical medications can be beneficial in these situations. An 81 y.o. female patient suffering idiopathic trigeminal neuralgia was referred by her family physician to pain specialists following an acute exacerbation of her trigeminal neuralgia in the maxillary area; no structural abnormalities had been detected by computerized axial tomography, and she was unresponsive to carbamazepine and pregabalin as higher doses could not be prescribed due to adverse effects. Fentanyl patches and oral oxycodone were also ineffective. A topical cream containing 6% gabapentin was compounded and applied three times daily to the painful area. At her consultation one month later, she and her relatives reported that following addition of the gabapentin cream, she experienced considerable pain reduction, and was able to cope with usual daily activities.

[Pain Med. 2017 Mar 6.](#)



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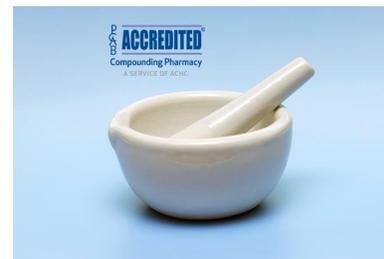
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