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Pregabalin, a Neuropathic Drug Used as an Antitussive in a Pediatric Patient with Acute Cough, a Case Report

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Background of the Study

Cough is one of the most common symptoms in children causing caregivers seeking medical consult.

It is usually secondary to a viral etiology and would resolve on its own without treatment. Even so, there have been significant number of cough suppressants that is readily sold in the market.

The American Academy of Pediatrics (AAP) recommend against the use of over-the-counter antitussive medications stating that it is no more effective than placebo for reducing cough from viral respiratory infection in children.

The lack of effectivity of most available drugs and the fear of exposing a vulnerable population to new treatments makes it hard to look and try for new possible more effective medication.

This case report presents the use of Pregabalin in the management of acute neuropathic type of cough.

Discussion

Pregabalin is a voltage gated calcium channel blocker initially formulated as an antiepileptic drug. In 2007, it was approved as a treatment for neuropathic pain. It has several off-label which includes chronic cough for adult patients.

Several studies have shown Pregabalin have been used as a possible treatment of chronic refractory cough. In the pediatric population, it has been studied as an adjunctive therapy for focal onset seizure in the following doses:

1. 3.5 milligram/kg/day for <30 kilograms
2. 2.5 milligram/kg/day for >=30 kilograms.

Currently, there are no available data on the use of pregabalin as a cough suppressant in the pediatric population. The development of pediatric drug use, safety and dosing is generally difficult as the subjects involved are vulnerable, making it hard to collect subjects.

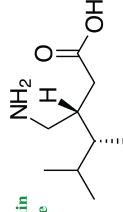
Course of Illness

This is a case of a 2-year-old male patient who had 2 weeks history of persistent dry neurogenic cough.

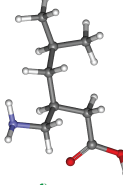
Patient is living with a sister who presented similarly.

3 Days	Fever, coryza, conjunctivitis and non-productive cough (+) purulent bilateral eye discharges and rhinorrhea Paracetamol , ibuprofen, salbutamol, montelukast, NSS nasal spray
Interim	Resolution of fever, conjunctivitis and coryza but persistence of cough
2 Days	Addition of Levodropropizine syrup , mnuka honey and chest physiotherapy
Day of Consult	Persistence of cough with posttussive vomiting, poor appetite due to coughing and refuses to play

Pregabalin Structure



Pregabalin 3D Structure



Conclusion

The introduction of new drugs to the pediatric population is difficult. Careful titration of medication to determine the effective and right dosing is important.

Our study has demonstrated the effectiveness of using Pregabalin as a supportive antitussive drug in the treatment of a Filipino child with an acute cough.

References: Robinson J, Kharitonenkov J, Arora A, Chinn D, Mark S, Dargatzis A, Saito M, Escarot J, G. E. A. Salazar M. (2023). Use of antitussive medications in acute cough in pediatric patients. *Journal of the American College of Emergency Physicians* 28(3). <https://doi.org/10.1016/j.ajem.2022.12.2487>

Patient's Diary from Pregabalin Initiation

Day 1: Medication: Cetirizine, Salbutamol, Montelukast and Nasal Suctioning	
Cough	Dry cough every 30 seconds
Sleep	Poor due to cough
Appetite	Poor, refused to take favorite food
Activity	Refused to play
Day 2 Medication: Cetirizine, Salbutamol, Montelukast, Nasal Suctioning, Pregabalin 0.7mg/kg/dose (1 dose at 1300H)	
Cough	Cough stopped 1 hour after intake of Pregabalin
Sleep	Slept 1530-1700H; able to sleep overnight
Appetite	Fair appetite but was able to request fried chicken
Activity	Was able to separate from mother and watched favorite TV show, able to play with sister
Day 3 Medication: Cetirizine, Salbutamol, Montelukast, Nasal Suctioning, Pregabalin 0.7mg/kg/dose (2nd dose at 0900H)	
Cough	Before intake of 2nd dose of pregabalin: recurrence of frequent dry to wet coughing: Resolution of cough 1 hour after intake of pregabalin
Sleep	Able to sleep the whole night
Appetite	Improving Appetite
Activity	Playful
Day 4 Medications: Cetirizine, salbutamol, montelukast, nasal suctioning	
Cough	Intermittent productive
Sleep	Good
Appetite	Good
Activity	Playful