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### **The pharmacovigilance in children respiratory medicine: The unrational use of some mucolytic drugs in children**

**Ioan Magyar**

Oradea University, Romania

Carbocysteine and acetylcysteine are drugs acting as mucolytics and expectorants. The therapeutic uses of these drugs are mainly as mucolytics of thick viscous and sticky purulent secretions present in the airways, both in adults and children. However, acetylcysteine, in addition to its use in respiratory pathology, is also used as an antidote in cases of acute poisoning with acetaminophen. However, it is known that acetylcysteine should be used with caution in patients with bronchial hyperactivity, bronchospasm, asthma or other bronchospastic conditions. According to some authors, acetylcysteine is even contraindicated in asthma. On the other hand, carbocysteine is one of the most prescribed mucolytic drugs in pediatric respiratory pathology, at least in our study. Chronic cough is a vexing and common problem for children, their care givers, and health care providers. Effective treatment may be difficult, especially if the underlying cause of the cough cannot be determined. Etiologies are varied and include common infectious agents that cause both upper and lower respiratory tract disease, asthma, foreign body aspiration and chronic primary pulmonary disease. Our research was based on the observations made on children who were brought to our emergency department presenting the main symptom of persistent and prolonged irritating cough. This has been mainly related to use of carbocysteine, because in the last medical history (before prescribing carbocysteine) the cough was not so obvious. By the contrary, this adverse drug reaction (ADR) was even absent on other mucolytics or expectorants when they was used. In other situations, carbocysteine use was associated with a worsening cough, accompanied by bronchospasm and occurrence of vomiting reflex. We consider all these symptoms (cough emergence or worsening of preexisting bronchospasm, and sometimes wheezing) being adverse effects of carbocysteine. This study was performed within the first 4 months of 2011, taking into account all children receiving carbocysteine and who presented in the emergency department with a new onset or worsening of cough and sometimes with the bronchospasm onset. In the mentioned period 89 children who received carbocysteine were recorded. The control group, was made by 102 children who presented with all the respiratory symptoms (such as cough, runny nose, shortness of breath), but who did not received carbocysteine. In our study, the first group is identified as group A (with carbocysteine), while the second group is identified as group B (without carbocysteine). The data were statistically analyzed using chi-square test. Most respiratory disease, characterized by the presence of secretions in the airways, at this age do not require mucolytic as first line treatment. Instead of, simple expectorants are more efficient. Overall, we believe that the use of carbocysteine in children exceeds the therapeutic benefit.

[magyar\\_nelu@yahoo.com](mailto:magyar_nelu@yahoo.com)

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