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The rational use of mucolityc drugs in children and worsening of the cough as adverse drug reactions after carbocysteine in children

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Abstract

Introduction

Carbocysteine is a mucolytic drug similar to acetylcysteine regard to clinical uses. Carbocysteine is widely used in children with respiratory diseases such as bronchitis, pneumonia and other diseases in which the viscous and sticky mucus secretion is present. Annually, in the paediatric emergency department (EDP) are evaluated, investigated and treated on average 24 000 children aged from a couple of weeks up to 18 years.

Materials and Methods

This study started from the observation that many children who received carbocysteine on arrival in EDP presented a worsening cough and even bronchospasm. We believe these symptoms are carbocysteine adverse drug reactions (ADRs). It is a retrospective study on 192 children who had various respiratory diseases. The special paper was used for the recorder of ADRs, a paper provided by Pharmacovigilance Department. Children were divided into two groups: group A (89 subjects) - who received carbocysteine and group B (103 subjects) - who have not received carbocysteine. The data were processed statistically using chi square test (χ^2).

Results

The most common symptom was cough in both groups (93.26% and 88.35%), followed by fever (65.17% and 65.05%) and rhinoreea (22.47% and 20.39 %). The most common combination of symptoms was cough + fever + rhinoreea (22.47% in group A and 20.39% in group B). In both groups prevailed the productive cough (46.99% and 45.05%). Dry cough and spastic cough was found in 21.69% and respective 12.05% in group A, respectively, 18.68% and 14.29% in group B.

Conclusions

It could be, this drug has an irritating effect on the airways, thus, it should be used with caution in children. In all cases of worsening cough, this effect was associated with carbocysteine. Also, the use for a few days of carbocysteine was associated with the development of wheezing and bronchospasm. In cases of asthma, recurrent wheezing or other similar diseases the use of carbocysteine should be avoided.

Key words: carbocysteine, cough, bronchospasm, children

Biography

Ioan Magyar has completed his PhD at the age of 43 years from University of Oradea. A several postdoctoral studies (organized by British Pharmacological Society) was carried out in London UK. These workshops include Enzymes as Drug Targets (2011) and Drug Discovery (2012). He is head of Department of Pharmacology, University of Oradea and he is also involved in clinical medicine (emergency medicine). He has published about 50 papers (some of them in Romanian and others in English).

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