The rational use of mucolytic drug in children. The bronchospasm and recurrent cough after use of carbocysteine in children

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Introduction. Carbocysteine and N-acetylcysteine are drugs with mucolytic and expectorant properties widely used in respiratory disease in adults but also in children. N-acetylcysteine is also used as donor of SH groups in the drug overdose such as in the acetaminophen poisoning. The respiratory illnesses are very frequent in children, thus it is obvious that these drugs are widely prescribed to these patients. However, N-acetylcysteine and carbocysteine are well known drugs which promote bronchospasm. They are contraindicated or should be used with caution in children with asthma, recurrent wheezing or other bronchospastic illnesses.

Material and method. In the first four months of the 2011 year, we have recorded 89 children presenting in the emergency department of paediatrics (EDP) for either recurrent and prolonged cough, wheezing, or even bronchospasm. We have tried to found any relationship between use of drugs which are containing carbocyisteine such as Humex or Rhinatiol and some symptoms such as persistent cough, recurrent wheezing or bronchospasm. We are considering these symptoms as adverse drug reactions (ADRs).

Results. These symptoms were closely related to the administration of the expectorant and mucolytic syrups with carbocysteine, as mentioned above. In the most times these drugs were used as self-medication (via parents), without a recommendation of physician. On the other hand many children in our study have taken carbocysteine as the recommendation of the physician. According to the children's gender 57.3\% (51) were female and 42.7\% (38) male, respectively. Over the 50\% (47) were children between 1 and 4 years old. In our study 33 patients were admittied in the hospital to providing complex and proper treatment. Over the 90\% (30) was recorded in 0-4 years interval. Significantly, in the 0-1 years category was recorded 14 children who have received carbocysteine and 10 children were admittied in the hospital. We consider these issues as treatment the serious mistakes from parents' side, who dose to their children any mucolytic or expectorant medicine found at hand.

Conclusions. A physical examination and a careful medical history may lead to a recommendation of lighter mucolytic and expectorant such as plant extracts in children with respiratory diseases of mild or moderate severity. This is intend to avoid prolonged cough, wheezing or bronchospasm, especially those children who have bronchial hypersensitivity or even asthma. A final aspect is the increasing of the incidence of recurrent wheezing and asthma in children under six year old. This should cause us to carefully physical examination, kind of cough and history of the child (spastic bronchitis, asthma or recurrent wheezing) when we intend to prescribe a mucolytic drug such as carbocysteine. In these cases we consider useful to chose and recommend any softer and more easily tolerated by children mucolytic and expectorant drugs.

Keywords: carbocysteine, cough, bronchospasm