

Mini Review

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Beta-Agonists and Bronchial Asthma

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Beta-agonists inhalers are being used in bronchial asthma for last about 70 years. It rapidly became popular amongst the asthmatics as it provides quick relief of the symptoms. Soon it was noticed that although it gives prompt relief, as a result its overuse was causing increased number of deaths from asthma, due to its cardiac side effects. Therefore, its excessive use was curtailed, and specific Beta - 2 agonists as fenoterol which will have mainly bronchial effect with minimal cardiac side effects was produced. Later long-acting Beta - 2 agonists as salmeterol and formoterol were made available. But in all cases where any form of Beta - 2 agonist was used, the same tendency of increase in asthma- deaths were seen.

Decreased sympathetic tone in Airways in asthma most likely is the result of increased activities of the monoamine oxidase and catechol-o-methyl transferase enzymes in the bronchial tree [1,2]. On continuing use of Beta agonists inhalers in any preparation will exacerbate the activities of these enzymes as a tachyphylactic effect, thereby aggravating the basic pathophysiology of asthma. That is the reason that asthmatics taking combined inhaler steroid and Beta agonist, as most of the common marketed preparations available, continue using it indefinitely in increasing dosages.

Therefore, Beta agonists of any kind should not be used regularly for a long period. If it is used in a preparation mixed with inhaler steroid, quickly it should be changed to inhaler steroid only. Moreover, for acute bronchospasm in asthma instead of Beta agonists inhalation for the rapid relief, monoamine oxidase inhibitor as phenelgin inhalation will be more appropriate and rational.

References

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2. Ahmed T (1997) Pathogenesis of bronchial asthma A hypothesis. *Middle East BMJ Open* 4: 1-9.

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