

Inhaled Insulin: Take a Deep Breath, but How?

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Abstract

Inhalation of insulin is the first alternative route of insulin administration, which has been developed to such a mature status that the first product (Exubera[®], Pfizer) was made available to the market and subsequently withdrawn as of early 2008. In view of the relatively low bioavailability of inhaled insulin and the intraindividual variability of the metabolic effect induced (which is in the range of that of subcutaneously applied regular insulin), one wonders how to improve both aspects. Unfortunately, it appears as if the impact of the inhalation maneuver on insulin deposition in the deep lung has not been studied extensively. We present some thoughts and data from an alveolar model and propose an experimental procedure that might be helpful in the quantitative evaluation of the impact of the insulin inhalation maneuver.

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