

Novolizer®**A Viewpoint by Adrian Gillissen**

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Novolizer® is a new refillable multidose breath-actuated dry powder inhaler for use with salbutamol (albuterol) or budesonide. Although dry powder inhalers are fairly well established in the therapy of obstructive pulmonary diseases, this device has several interesting features such as a complex patient feedback mechanism (acoustic, sensory, dose counter), an inspiratory threshold valve to prevent under- or overdosing, and the option to replace just the drug cartridge instead of wasting the whole device when it is empty.

The drug is released only at a peak inspiratory flow rate (PIFR) of at least 35–50 L/min, resulting in a whole lung deposition rate of radiolabelled budesonide between 19.9% and 32.1% (depending on PIFR). This result is in very good agreement with pulmonary deposition rates of other dry powder inhalers. High inspiratory flow rates (65 and 99 L/min) with Novolizer® resulted in higher deposition rates compared with Turbuhaler®.

Clinical efficacy was proven in the treatment of patients with mild and moderate asthma and in

chronic obstructive pulmonary disease (COPD) in various trials. Using budesonide Novolizer® and salbutamol Novolizer®, the following parameters were improved: lung function (forced expiratory flow volume), peak expiratory flow rate, nocturnal awakening, and intensity of cough, wheezing and dyspnoea score. In three studies, tolerability and patient acceptability were tested. Although the use of questionnaires to assess acceptability may have some flaws, the general acceptability of this device by patients with either asthma or COPD was high. If so, Novolizer® may lead to an improvement in currently poor compliance, which has been shown to be about 50% in asthma trials using computer chip-equipped inhalers. While an improvement could be expected, it has not yet been proven.

Unfortunately, most clinical trials available to date either have only been published in abstract form at recent congresses or were included in review articles. Also, nowadays, the commercial success of an inhalation device is likely to depend on the availability of a fixed-dose combination, consisting of a corticosteroid and a long acting β_2 -agonist. It will be interesting to see if a Novolizer® fixed-dose combination product is available in the future. ▲