

## **16 Inhalation technique in hospitalized asthma and COPD patients – should patients be regularly assessed before discharge?**

Eva Margrethe Nor Buset<sup>\*1</sup>, Erik Dyb Liaaen<sup>2</sup>, Kjetil Roth<sup>2</sup>, Hege Salvesen Blix<sup>3</sup>

<sup>1</sup>Sykehusapoteket i Ålesund, <sup>2</sup>Ålesund Sykehus, <sup>3</sup>Folkehelseinstituttet

Correct inhalation technique is crucial for optimal effect of drugs used in the treatment of patients with obstructive lung diseases. Studies have shown that skills and knowledge with regard to the use of inhalation devices is variable in both patients and health professionals. We aimed to investigate whether hospitalized patients used their inhalation medicines correctly and furthermore, to assess whether certain patient parameters could predict poor inhalation technique.

Asthma and COPD patients who used inhalation medicines were eligible for the study; the patients were recruited from The Department of Medicine at Ålesund Hospital, autumn 2013. A clinical pharmacist interviewed the patients and tested their inhalation technique close to discharge. Patient information and data on possible risk factors was collected through medical records and a questionnaire. Karnofsky performance scale was used to evaluate patient performance. Furthermore, patients were asked to perform two lung function tests; peak inspiratory flow and spirometry. Simple checklists developed for different devices were used to assess the inhalation technique.

We wanted to see how many patients had poor, intermediate or good inhalation technique and to test if certain parameters could predict which patients had poor inhalation technique.

Altogether 43 patients were included in the study. The mean age of the patients was 69 years, 22 men and 21 women. On average, the patients used 13.2 drugs, and 35 patients (81 %) used two or more inhalators. A large proportion, 46.5 % of patients had intermediate or poor inhalation technique. Nine patients (21 %) claimed they had never received any training in use of the inhalators. There was no significant correlation between age, performance status, lung function, vision, number of inhalers or previous training, and the inhalation technique. However, there was significant correlation between use of certain “risk” drugs (anxiolytics, hypnotics, sedatives, antidepressants and certain anticonvulsants) and poor inhalation technique.

Our results show that there is a need to improve inhalation technique in hospitalized patients with asthma and COPD. We believe that regular assessment of the technique, combined with training, will improve patient’s inhalation technique. We did not find any patient parameters that could easily predict poor inhalation technique, but perhaps one should pay particular attention to patients using certain “risk” drugs. Hospital admission gives possibilities to evaluate the patient’s inhalation technique and to provide appropriate training before discharge.