

Asthma phenotypes in primary care

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Background: Current guideline-based primary care asthma management is a one-size-fits-all approach. To allow for more personalised management, we aimed to identify distinct and clinically relevant phenotypes, based on easily obtainable parameters, and to assess long-term asthma outcomes of these phenotypes.

Method: We analysed data from a randomised controlled trial, with 611 adult asthmatics, 18-50 years, with one year follow-up. We assessed 15 parameters using a hierarchical clustering strategy. Subsequently, outcomes at 12 months follow-up for the identified clusters were compared, including: asthma control (Asthma Control Questionnaire (ACQ)), quality of life (Asthma Quality of Life Questionnaire (AQLQ)), exacerbation-rate and medication-usage.

Results: Five clusters were identified using baseline data: 1 'early atopic', 2 'late-onset females', 3 'reversible', 4 'smokers', 5 'exacerbators'. Long-term follow-up showed clinically meaningful differences between different phenotypes for all outcomes, as example see figure 1.

Generally the 'early atopic' subgroup showed the most favourable results and the 'exacerbators' the least favourable.

Discussion: Five distinct and easily identifiable asthma phenotypes were established in primary care, which significantly differ in asthma outcomes over a one year follow-up period. Phenotyping patients allows for a more personalised asthma management strategy and could help identify which patients to review more regularly.