Presence of rhinitis modulates the effect of asthma

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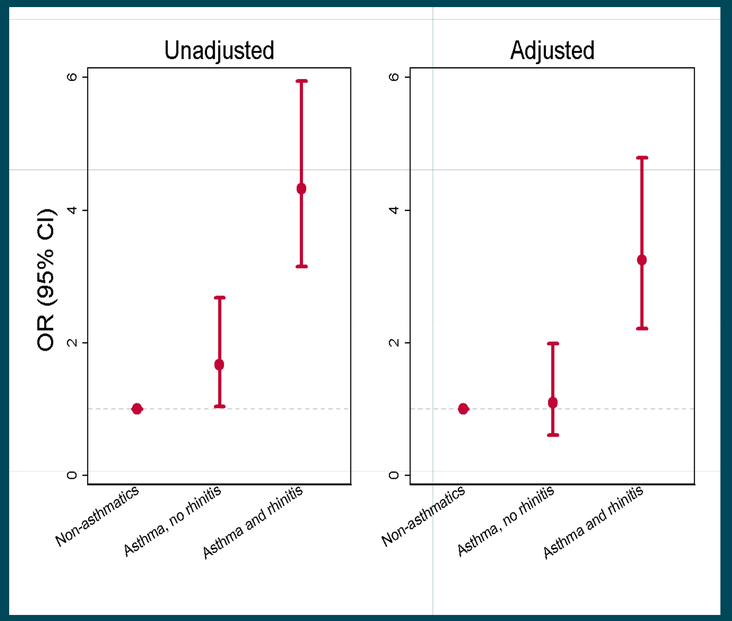
Risikofaktorer for Astma hos Voksne

Introduction: The presence of rhinitis is a risk factor for the presence of asthma and in longitudinal studies rhinitis has been found to be a risk factor for future development of asthma both in childhood asthma and in adult-onset asthma. However, in adult-onset asthma the association to pre-existing or new diagnosed atopy measured by skin prick test does not seem to be as strong. We have analysed for associations between current asthma, atopy, and rhinitis.

Methods: In a Danish population based cross-sectional study of asthma among subjects aged 20-44 years (ECRHS protocol) 1191 subjects were eligible for analysis of associations between asthma, atopy, and rhinitis. Current asthma and rhinitis were defined by questionnaire. Atopy was defined as ≥ one positive skin prick test (≥ 3 mm) of 13 common inhalant allergens.

Table 1. Characteristics of study population n=1.191

Mean age, years (SD)	34.7 (7.1)
Female, n (%)	609 (56)
BMI, mean (SD)	25.7 (4.9)
Doctor diagnosed asthma, n (%)	331 (30)
Current asthma symptoms, n (%)	311 (29)
Rhinitis, n (%)	622 (52)
BHR, n (%)	239 (25)
Atopy, n (%)	415 (39)
Smoking	
Never, n (%)	578 (53)
Former, n (%)	185 (17)
Current, n (%)	326 (30)



Smoking history was obtained, and age, height, and height were measured, and BMI was calculated. Bronchial hyper-responsiveness was measured by methacholine challenge up to a cumulative dose of 2.46 mg. using a Mefar dosimeter. PD20 was recognised if FEV1 fell > 20% from baseline. Logistic regression was used adjusting for PD20, gender, BMI, age, smoking, and study center.

Results: 238 subjects fulfilled the criteria of having both current asthma and rhinitis, and 79 subjects had current asthma alone. Atopy was strongly associated to current asthma and rhinitis; unadjusted (OR 4.33, 95% CI 3.15-5.95), adjusted (OR 3.25 95% CI 2.21-4.79), and weaker associated to asthma alone unadjusted (OR 1.67, 95% CI 1.04-2.69), adjusted (OR 1.10, 95% CI 0.61-1.99).

Conclusion: Atopy is strongly associated to current asthma and rhinitis while the association is weaker to current asthma alone. Concurrent symptoms of rhinitis might be an indicator of atopic asthma.

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