

COPD among never-smokers - Prevalence, risk factors and comorbidities

Akademisk avhandling

som för avläggande av medicine doktorexamen vid Sahlgrenska akademien vid Göteborgs universitet kommer att offentligen försvaras i Hörsal Arvid Carlsson, Medicinaregatan 3, Göteborg, torsdagen den 21 maj 2015, kl 09.00.

av

Stig Hagstad

Fakultetsopponent:

Professor Giovanni Viegi

Istituto di Biomedicina e di Immunologia Molecolare

Consiglio Nazionale delle Ricerche (CNR)

Palermo, Italy

Avhandlingen baseras på följande delarbeten:

- I. **Hagstad S**, Ekerljung L, Lindberg A, Backman H, Rönmark E, Lundbäck B. **COPD among non-smokers – Report from the Obstructive Lung Disease in Northern Sweden (OLIN) studies.** *Respiratory Medicine* 2012;106;980-988
- II. **Hagstad S**, Bjerg A, Ekerljung L, Backman H, Lindberg A, Rönmark E, Lundbäck B. **Passive smoking exposure is associated with increased risk of COPD in never smokers.** *Chest* 2014;145(6);1298-1304
- III. **Hagstad S**, Backman H, Ekerljung L, Bossios A, Hedman L, Lindberg A, Rönmark E, Lundbäck B, Bjerg A. **Comorbidities are common also in never-smokers with COPD.** *Submitted*
- IV. **Hagstad S**, Backman H, Bjerg A, Ekerljung L, Xiong Y, Hedman L, Lindberg A, Torén K, Lötval J, Rönmark E, Lundbäck B. **Prevalence and risk factors of COPD among never-smokers in two areas of Sweden – occupational exposure to gas, dust or fumes is an important risk factor.** *In manuscript*

Göteborg 2015



GÖTEBORGS UNIVERSITET

COPD among never-smokers – risk factors, prevalence and comorbidities

Stig Hagstad

Department of Internal Medicine and Clinical Nutrition, Institute of Medicine,
Sahlgrenska Academy at the University of Gothenburg

Abstract

The overall aim of this thesis was to investigate prevalence, risk factors and comorbidity of COPD among never-smokers. COPD was in this thesis defined as a syndrome also including prior asthma diagnosis with chronic airway obstruction. In papers I-III population-based cohorts of the Obstructive Lung Disease in Northern Sweden (OLIN) studies were used. In paper IV data from the OLIN studies was pooled with data from the West Sweden Asthma study.

Prevalence of COPD among never-smokers was 3.0-7.7% depending on spirometric definition, and similar in 1994-1996 vs. 2009-2012. Corresponding prevalence of GOLD ≥ 2 was 1.3-3.5%. Symptoms were highly prevalent in subjects with GOLD ≥ 2 , regardless of smoking status. No significant regional differences in prevalence between OLIN and WSAS were seen. Risk factors for COPD among never-smokers included age, physician-diagnosed asthma and occupational exposure to gas, dust or fumes. Passive smoking in multiple settings was independently associated with an incrementally increased risk of COPD. Comorbidities, in particular cardiac and cardiovascular conditions, were highly prevalent among subjects with GOLD ≥ 2 regardless of smoking status.

In conclusion, COPD is a common condition among never-smokers, and associated with previous asthma and exposures including passive smoking and occupational gas, dust or fumes. Never-smoking subjects with COPD had significantly more respiratory symptoms and comorbidities than never-smokers without COPD. Comorbidities are highly prevalent in COPD regardless of smoking history.

Keywords: COPD, epidemiology, passive smoking, comorbidity, risk factor, prevalence

ISBN: 978-91-628-9350-7