ABS45: Emphysema is equally often present in smokers with preCOPD as in smokers without COPD

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Background: COPD is one of the major leading causes of morbidity and mortality worldwide and cigarette smoking is the major risk factor for the development of COPD. The earlier we can detect signs of incipient COPD, the earlier and with greater impact we can advise smokers to cease smoking. In a previous study, smokers 45—55 years old, were invited to perform spirometry. 57 smokers with normal lung function and pre-COPD were identified. Pre-COPD was defined as smokers having FEV% predicted 89—93 for males and 90—93 for females or FEF50 ≤60% predicted. *Aim:* To compare the occurrence of emphysematous lesions in smokers who had normal lung function and pre-COPD with smokers without pre-COPD by spirometry. *Setting:* Primary health care centre Brinken, Motala and University hospital in Linköping, Sweden. *Method:* The study group consisted of 59 smokers with a mean age of 55 years, of which 30 were smokers with normal lung function and pre-COPD and 29 were matched controls, who had normal lung function and no pre-COPD. The subjects performed new spirometry and High Resolution Computed Tomography (HRCT) 3—4 years after selection. *Results:* The cumulative incidence of COPD in all 59 subjects was 8,5% (5/59) and all were recruited smokers defined as having pre-COPD, 16,7%, (5/30). The presence of emphysema on HRCT was 43% ($n = 13$) in the group of smokers defined as having pre-COPD and 44% ($n = 13$) in the control group. Smokers with emphysema, identified on HRCT, had significantly lower BMI ($p < 0.001$). *Conclusion:* Emphysema at HRCT, is present before the lung function has deteriorated according to spirometric definitions of COPD. Smokers with emphysema had significantly lower BMI. Low body weight might be a consequence of incipient COPD not detectible by spirometry, primarily as a result of the systemic inflammation present in COPD or simply be a risk factor for developing COPD.

Conflict of interest and funding

None declared.

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ABS46: Lung function testing in the elderly - can we still use FEV1/FVC <70% as a criterion of COPD?

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Introduction: Chronic obstructive pulmonary disease (COPD) can be diagnosed when the FEV1/FVC ratio is below 70%, according to Global initiative for chronic obstructive lung disease. However, there is a risk of over-diagnosis when this diagnostic threshold is applied among the elderly. *Aims:* To contribute to the discussion about the criteria for diagnosing COPD, by describing the lung function in a population aged 60 years or more, and in particular the changes in the mean and 5% percentile of the FEV1/FVC ratio with increasing age. *Subjects and methods:* A cross sectional population based study was performed in the city of Tromsø, Norway, in 2001—2002. Spirometry was done in 4102 people 60 years and older (54.6% women). *Results:* A drop in FEV1% predicted and FEV1/FVC ratio associated with smoking and increasing age was found. The frequency of FEV1/FVC ratio <70% increased steeply by increasing age and was about 20% in never smoking women and men aged 75 years and more. The 5% percentile of the FEV1/FVC ratio dropped more rapidly by increasing age in healthy never smokers than could be expected from currently used reference values. *Conclusions:* Adjustments of the GOLD criteria for diagnosing COPD are needed, and FEV1/FVC ratios down to 65 and 60 % should be regarded as normal when aged 70 and 80 years or more, respectively.

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There are no conflicts of interest.

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ABS47: Flow and volume responses after bronchodilation in mild to severe COPD

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Aims and objective: To investigate the relationship between the severity of COPD and responses in terms of changes in exhaled flow and volume during routine bronchodilator reversibility testing. *Study subjects and methods:* We used data from the ''Stichting Huisartsen Laboratorium'' (SHL) Breda, a regional diagnostic centre that provides a range of diagnostic and health care services for GPs in the South-Western part of the Netherlands. Patients aged ≥40 years diagnosed as COPD by a respiratory consultant of the SHL were categorized according to disease severity using GOLD criteria. Spirometric tests were performed by trained lung function technicians using SpiroPerfect® PC based spirometers. Cross-sectional univariate analysis of the association between the GOLD stages and the forced expiratory volume in sec (FEV1) and vital capacity (VC) response after bronchodilator testing. *Results:* 887 patients (63.5% males) with a diagnosis of COPD were analysed, 227 GOLD I, 547 GOLD II, 113 GOLD III/IV. Mean age was higher for each successive GOLD stage (62.0, 63.5 resp. 65.6 years, $p < 0.05$). Mean FEV1% predicted was 68.8 (SD 16.2). FEV1 response decreased with increasing GOLD stage ($p = 0.015$): GOLD I 0.193 litres (SD 0.199), GOLD II 0.187 (SD 0.173), GOLD III/IV 0.140 (SD 0.168). In contrast, VC responses increased as the disease was more severe ($p = 0.010$): GOLD I 0.149 (SD 0.199), GOLD II 0.199 (SD 0.266), GOLD III/IV 0.232 (SD 0.343) litres. *Conclusions:* Response on bronchodilator in terms of flow (FEV1) decreased as GOLD stage was more severe, whereas the volume (VC) response increased along with the severity of COPD.

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ABS48: On-line reporting of primary care spirometry

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Introduction: Spirometry can be performed in GPs' surgeries but test quality and accuracy of interpretation are uncertain. *Aims and objectives:* To test the feasibility and usefulness of specialist on-line reporting of spirometry in general practices. *Subjects and methods:* Six randomly selected practices (6000+ patients) were provided with a spirometer, training, and workload reimbursement. Each practice did tests on at least 50 patients in whom abnormal results were expected. Test results were given to a practice clinician and to the local respiratory unit for interpretation. Written reports from both were compared to assess primary care interpretation of test quality, and