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**ASTHMA-COPD OVERLAP SYNDROME: REVIEW OF INTERNATIONAL GUIDELINES**
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**Background.** Asthma and chronic obstructive pulmonary disease (COPD) share many characteristics and symptoms, and the differential diagnosis between the two diseases can be difficult in primary care. This study explored potential overlap between both diseases in a primary care environment. Patients who suffer from asthma and COPD overlap syndrome have low-health-related quality of life (QOL) and suffer from more complications than those affected by either disease alone. Because of the clinical similarities between asthma, COPD and the various phenotypes of ACOS, diagnosis of ACOS is difficult.

**Aim:** To compare different national guidelines, diagnostic criteria and treatment options on ACOS. To reveal the prevalence and outcomes of ACOS in different countries. To compare different prognosis according to treatments in different countries.

**Method.** We obtained references through a PubMed search inclusive of publications from 2000 to March 2019. Search terms included "asthma COPD overlap syndrome", "ACOS", and "mixed asthma COPD phenotype". We retrieved randomized controlled trials, observational cohort studies, systematic reviews, meta-analyses, and case series and reports for further review. We prioritized larger randomized controlled trials, observational cohort studies, and meta-analyses that were published most recently. We filtered search results for relevance to definition, epidemiology, mechanisms, and treatment. We considered only English language publications.

**Results.** In the American guidelines diagnostic criteria are based on evidence of a post-bronchodilator FEV1/FVC < 0.7 in addition to combinations of clinical features such as: significant tobacco exposure or biomass equivalent, a diagnosis of asthma reported by the patient or made by a physician, post-bronchodilator response of > 200-400ml or 12-15% predicted in the FEV1, history of wheezing, and serum or sputum eosinophilia. Treatment option is based on treatment of asthma with ICSs and long-acting b2 agonist (LABA). The reported prevalence of ACO increases with age and ranges between 1.6% and 4.5% in general population studies.

In the European countries diagnosis criteria are based on simultaneous clinical characteristics of asthma and COPD together with a fixed airflow obstruction associated with 2 major criteria (previous history of asthma; presence of a previous history of smoking exposure and/or exposure to biomass combustion; positive bronchodilation test (increase in FEV1 of at least 200mL and 12%) on more than 1 occasion) plus 1 minor criteria (history of atopy; age ≥40 years; peripheral eosinophilia (>300 eosinophils/ µL or >5% of leukocytes). A combination of ICS with LABA or long-acting muscarinic antagonist (LAMA) was considered as first line pharmacological treatment. Prevalence of ACOS are 1.6%, 2.1%, and 4.5% in the age groups 20-44, 45-64, and 65-84 years, respectively.

In Japan prevalence of ACOS has varied widely in studies: from 0.9% to 11.1% in the general population, from 11.1% to 61.0% in asthma patients, and from 4.2% to 66.0% in COPD patients.

**Conclusion.** The prevalence of ACOS and clinical outcomes varied markedly according to diagnostic criteria. This may be due to the dependence on self-reported history in the diagnostic criteria, which suggests the requirement of objective measurement-based diagnosis to exclude other obstructive pulmonary diseases based on symptoms, clinical findings and histories of patients in order to have the beneficial treatment and better outcome.