Concordance between GOLD, NICE and Lower Limit of Normal criteria for diagnosis of airflow obstruction

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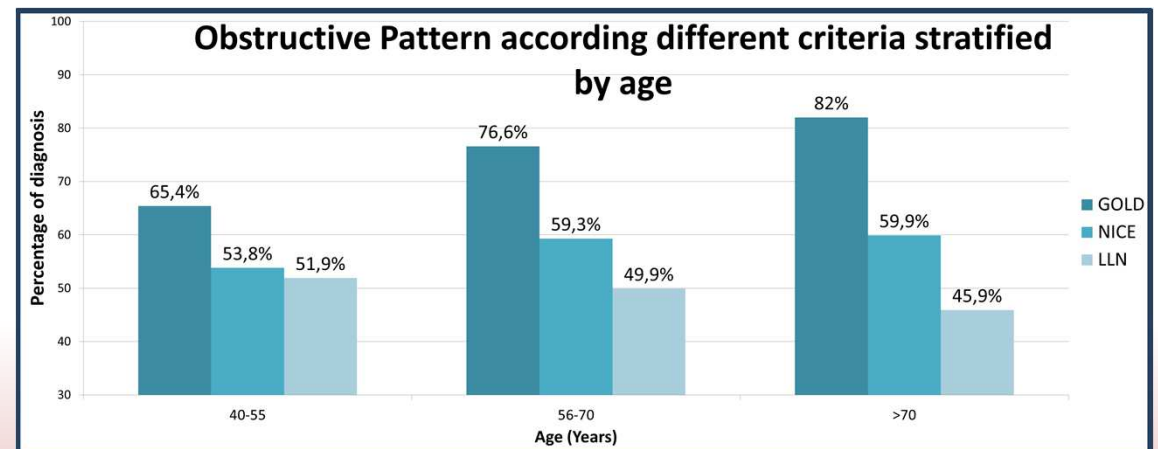
INTRODUCTION

❖ There is no consensus on the best criteria to be used for the spirometric confirmation of a clinical diagnosis of COPD.

❖ Two main measures are discussed. One of them is the FEV1/FVC fixed ratio of less than 0.7, alone (SEPAR-ALAT, GOLD or ATS-ERS guidelines) or in combination with a low FEV1 (less than 80% of predicted, NICE guidelines). The other measure is the FEV1/FVC ratio below the 5th percentile, the lower limit of normal (LLN).

❖ Prevalence studies have shown discordance between the fixed ratio and LLN, suggesting potential overdiagnosis by the former or underdiagnosis by the later..

❖AIM: To evaluate concordance between these two criteria for diagnosis of airflow obstruction according to age .

METHODS

❖ Data were collected between January and May 2015.

❖ Cross-sectional study on COPD in Leon (Spain) called LEONPOC.

❖ 577 COPD patients , between 40 and 85 years old among 5522 cases were selected from primary care database (MEDORA)

❖ Spirometries and post-bronchodilator tests were performed to the patients according to the ATS/ERS guidelines.

❖ We compared three spirometric criteria for determining airflow limitation GOLDn, NICE and LLN (reference equations from Dutch study.: Thorax 2008;63:1046-105) . Kappa concordance coefficient was used to evaluate the results.

RESULTS

➢ The spirometries of 469 patients were evaluated.

➢ 368 (78.5%) had an airflow obstruction according to GOLD guidelines; 277 (59.1%) according to NICE guidelines and 244 (52%) according to LLN criteria. There were stratified by age.

➢ The Kappa concordance coefficient between the GOLD and LLN was 0.572 as age increases (SD ±0.11) for the interval from 40 to 55 years old; 0.437 (SE ± 0.063) for the ages between 55 to 70 and 0.301 (SD ± 0.041) from 70 to 85 years old.

➢ The concordance coefficient between the NICE and LLN criteria were 0.576 (ES ± 0.113); 559 (SE ± 0.068) and 0.436 (SE ± 0.052) for the same intervals of ages.

Obstructive Pattern according different criteria stratified by age

CONCLUSIONS

➢ The results indicated that overdiagnosis could be a problem when using a single criterion in older patients. On the other hand, the use of fixed ratio in younger can misdiagnose patients..

➢ There is persistent controversy regarding the most appropriate cutoff values for the FEV1/FVC in the diagnosis of chronic airflow obstruction . COPD diagnosis is based on the triple crieria of presence of risk factors, symptoms and spirometric evidence of airflow limitation COPD. We suggest the use of both criteria (fixed ratio and LLN) to make an accurate diagnosis..