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Title: The correlation of new GOLD classification (2011 version) with exercise capacity and mortality

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Body: Background: New GOLD guideline recommends assessing the severity of COPD by combination of FEV1, symptom scoring, and exacerbation frequency. However, whether the new GOLD classification is more closely associated with exercise capacity and mortality remains unclear. Method: The correlation of 6MWD (6-minute walking distance) and mortality rate with COPD staging in a cohort of 114 clinically stable COPD patients was compared by using old (2007) and new (2011) GOLD classifications. Results: In the new classification set, patients were divided into group A (29 patients, 25.4%), B (21 patients, 18.4%), C (14 patients, 12.3%), and D (50 patients, 43.9%). Those patients were re-divided in the old GOLD classification group into stage I (17 patients, 14.9%), stage II (36 patients, 31.6%), stage III (50 patients, 43.9%), and stage IV (11 patients, 9.6%). FEV1 and mMRC score showed a significant correlation (P<0.001, R=--0.55). However, patients in group B and C (30.7%) showed disproportion in scores of FEV1 and mMRC. Age, gender, Body mass index, and pack-years showed no significant difference between the two classifications. 6MWD showed significant between group A and D (447.5 vs. 361.9 meter, P=0.003), and between stage I and III (477.1 vs. 365.9 meter, P=0.001) as well. Kaplan-Meier method showed new GOLD classification is associated with mortality (P=0.02), but old GOLD staging is not associated with mortality (P=0.58). Conclusions: New GOLD classification is a better applicable tool in assessment of exercise capacity and mortality in COPD patients than old GOLD classification.