reduction in CT guided biopsies, standard bronchoscopies and mediastinoscopies. These changes in practise have implications for future service provision, training and commissioning.

Reference

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Symptoms, quality of life and exercise in COPD

P74 A NOVEL MEASURE OF PHYSICAL EXERCISE CAPACITY IN COPD

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Introduction Chronic obstructive pulmonary disease (COPD) is associated with progressive impairment of physical performance. However, determination of physical performance in routine clinical practise is difficult due to limited resources. This study compared the timed up and go (TUG) test and a range of assessments of physical performance, easily applied in the routine care of COPD, with the 6 minute walk test (6MWT).

Method As part of a longitudinal study of comorbidities in COPD, sub-maximal physical performance was examined in 300 patients and 50 comparators using the 6MWT. The TUG test, spirometry, COPD assessment test (CAT), St George's Respiratory Questionnaire (SGRQ) and gait speed were also determined. Gait speed was determined by dividing 6MWTd istance by time.

Results Patients and comparators were similar in age, BMI and gender. There were between group differences in 6MWT, TUG and gait speed (Table 1), ANOVA showed a difference between comparators and the GOLD stages of COPD for all these variables (all $p<0.01$). The TUG time differed across BMI categories in COPD but not comparators (ANOVA $p=0.007$ and $p=0.195$ respectively). The TUG time was inversely related to 6MWT ($r=0.64$, $p<0.0001$), gait speed ($r=0.63$, $p<0.0001$)and lung function ($r=0.15$, $p<0.01$), and directly to the activity ($r=0.35$, $p<0.0001$)and total SGRQ scores ($r=0.35$, $p<0.0001$) and CAT ($r=0.39$, $p<0.0001$). Stepwise regression analysis, adjusted for age and BMI, indicated that TUG time, SGRQ activity score and CAT score explained 73% of variance in 6MWT in patients, with lung function excluded from the analysis.

Conclusions The TUG time identified the difference in physical performance between patients and comparators and also across GOLD categories. In the elderly the TUG test has been used as an indicator of physical performance, being an integrated measure of gait speed, balance and functional capacity. It appears to apply in the same way to the physical deficits in COPD and also to link to health related quality of life. The application of TUG test and validated questionnaires may be a useful measure of physical performance, which because of its rapidity and ease of application could be used in assessments in clinical practise.

Abstract 74 Table 1 Clinical characteristics of patients and comparators

Mean±SD	COPD	Comparator	P value
Age (years)	66±7	65±8	0.198
BMI (kg/m^2)	28±5.4	27.9±7	0.844
$FEV_{1\%}$ pred	54±19.6	103±14.8	<0.0001
6MWT (m)	291±111	472±80	<0.0001
TUG (sec)	11.4±3.9	8.2±1.3	<0.0001
Gait Speed (m/min)	48.5±18.5	78.6±13.4	<0.0001

P75 PHYSICAL IMPAIRMENT AND FRAILTY IN PATIENTS WITH CHRONIC OBSTRUCTION PULMONARY DISEASE (COPD)

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Background COPD is a multi-system disease, which has been linked to premature physiological ageing. Recognised co-morbidities include increased risk of cardiovascular events and osteoporosis, loss of muscle mass, function and impaired quality of life (QoL). The Chronic Geriatric Assessment (CGA) has been used to measure impairments, frailty and predict outcomes in older individuals. We hypothesised that the CGA would be greater in COPD than comparator subjects, and would relate to physical function and QoL in patients with COPD.

Methods As part of the Assessment of Risk in Chronic Airways Disease Evaluation (ARCADE)* longitudinal study, 300 patients with COPD (149 male) and 50 (28 male) comparators free from respiratory disease were evaluated. In all subjects spirometry, BMI, handgrip, 6 minute walk distance (6MWD), timed up and go (TUG), and the CGA were determined. The CGA is a 20 item interviewer administered questionnaire, which quantifies, physical, functional, psychosocial and medical impairments, scored out of 61, higher scores indicate more impairment. Health-related QoL was measured in patients using the St George's Respiratory Questionnaire (SGRQ) and MRC breathless was recorded.

Results Patients and comparators were similar in age, gender and BMI, but differed in lung function, grip strength, 6MWD, TUG and all domains of the CGA (Table 1). There was no difference in gender for BMI and CGA score. In patients, the total CGA score related to FEV_1% $r= -0.187$, handgrip $r= -0.335$, 6MWD $r= -0.548$, TUG $r=0.506$, MRC breathlessness $r=0.351$ and number of exacerbations per year $r=0.313$ (all $p<0.05$) but did not relate to age. Of these, stepwise multiple regression showed that 6MWD, TUG, handgrip and number of exacerbations per year predicted the total CGA score. All of the CGA impairment categories related to all domains of the SGRQ ($p<0.001$).

Conclusion The CGA, a measure of impairment and frailty, was greater in patients with COPD than comparators. The CGA related to physical function (handgrip, TUG, 6MWD) and QoL independent of age in patients. The use of the prognostic utility of the CGA in COPD is worthy of further study which will be addressed longitudinally by the ARCADE study.

*(Funded by GlaxoSmithKline)

Abstract 75 Table 1

Mean±SD or Median (range)	Comparators	COPD	P value
Age (yrs)	65±8	66±7	0.198
FEV_1% predicted	103±15	55±20	<0.001
FEV_1/FVC (L)	0.77±0.06	0.52±0.11	<0.001
BMI (Kg/m2)	27.9±4.2	28.1±5.4	0.844
Handgrip (Kg)	32.1±11.0	26.6±9.7	<0.001
6MWD (m)	472±80	291±111	<0.001
TUG time (s)	8.2±1.3	11.4±3.9	<0.001
CGA Physical	0.0 (0.0–2.0)	0.0 (0.0–6.0)	<0.001
CGA Function	0.0 (0.0–1.0)	0.5 (0.0 –7.0)	<0.001
CGA Psychosocial	0.25 (0.0–3.25)	2.0. (0.0–6.0)	<0.001
CGA Medical	2.0 (0.0–6.0)	6.0 (0.0 –18.0)	<0.001
CGA Total Score	3.25 (0.0–8.25)	9.25 (0.0 –28.5)	<0.001