lobe, described on the subsequent chest CT scan as an anterior paramediastinal subsegmental consolidation of the right upper lobe of 3.5 × 2 × 3.3 cm. The patient worked as a warehouse coordinator and had previously been a baker, went to the gym regularly and lived in a rural area with contact with dogs, chickens and rabbits. He was an ex-smoker for two years (five packs per year), had no other medical history and was not on chronic medication. The physical examination did not show any alterations. FDG positron emission tomography showed a voluminous hypermetabolic lesion, with ill-defined limits, centered on the right anterior chest wall/mediastinum, with involvement of the anterior extremity of the first rib/costocostal joint, the inferior and medial extremities of the right clavicle and the anterior segment of the right upper lobe, suggestive of a high-grade malignant neoplastic lesion. He did a transthoracic biopsy. The histology revealed fragments of fibroadipose tissue with dense plasmocytic infiltrate with IgG4 expression in more than 50 plasma cells/high magnification field. Serum IgG4 was normal and total IgG, IgA and C3 were slightly increased. The autoimmune study was only positive for p-ANCA (1/80), but with negative MPO and PR3. Pain was controlled with tapentadol 100 mg 12/12h and there was a spontaneous total remission of the pulmonary component of the lesion after five months. The patient was referred to the Internal Medicine consultation and is in the disease stratification stage without directed treatment.
Discussion: IgG4-RD is a group of rare diseases that often present with tumor masses and/or painless enlargement of multiple organs. The serum IgG4 level is typically high, but not always. Symptoms depend on the affected organ but are insidious and not associated with fever. Pulmonary involvement specifically can be asymptomatic or cause dyspnea, cough or chest pain with pleuritic characteristics. Diagnosis usually requires biopsy, exclusion of neoplastic etiologies and treatment with corticosteroids or rituximab seeks to reduce inflammation, induce remission and preserve affected organ function.

Keywords: *Autoimmune diseases. Immunoglobulin G4-related disease. Lung mass.*

PC 105. AN UNCOMMON PLEURAL EFFUSION

R. Costa, J. Pinto, A. Paiva, M. Martins, L. Lemos, A. Marinho, P. Fernandes

Centro Hospitalar Universitário de São João.

Introduction: Pleuropancreatic fistula (PPF) is a rare complication of chronic pancreatitis. Right pleural effusions secondary to PPF are atypical (up to 76% of the cases present with only left hemithorax involvement.
Case report: A middle-age men with history of chronic alcoholic pancreatitis presented in the emergency department with pleuritic right chest pain, dyspnea and anorexia. Blood analysis documented leukocytosis and elevated levels of pancreatic lipase (149 U/L), pancreatic amylase (157 U/L) and reactive C protein (182 mg/L). Chest radiograph showed a right pleural effusion and a thoracocentesis was performed. Pleural fluid analysis documented an exudate with elevated amylase levels (2,480 U/L). Computed tomography (CT) of the chest and abdomen with intravenous contrast showed a right loculated effusion and a fistulous tract with fluid and gas extending from the pancreatic head into the right pleural space, transposing the right hemidiaphragm. The patient was hospitalized and empiric antibiotherapy and fasting were implemented. Three days later, endoscopic retrograde cholangio-pancreatography (ERCP) documented a stenosis of the proximal portion of the main pancreatic duct and a fistula connecting this duct and right pleural cavity. A pig-tail drain was placed in the cephalopancreatic portion of the pancreatic duct. The patient completed three weeks of antibiotherapy with piperacillin-tazobactam. He showed symptomatic improvement and was discharged. In the follow-up after 6 months, the patient remained asymptomatic and CT revealed a small right pleural effusion, but no evidence of residual fistula.
Discussion: Since PPF is uncommon, the management remains controversial. ERCP has emerged both as a diagnostic and therapeutic modality in selected patients. Surgical treatment usually is the last therapy strategy, after medical and endoscopic treatment.

Keywords: *Pleuropancreatic fistula. Pleural effusion.*

PC 106. AGREEMENT BETWEEN THE PHYSICAL ACTIVITY INTENSITY LEVEL OBTAINED BY DIFFERENT OUTCOME MEASURES IN PEOPLE WITH COPD

P. Rebelo, D. Brooks, A. Marques

Lab3R-Respiratory Research and Rehabilitation Laboratory, School of Health Sciences, University of Aveiro.

Introduction: Intensity of physical activity (PA) must be measured to confirm that people with chronic obstructive pulmonary disease (COPD) meet PA recommendations and ensure participants' safety. Quantifying the oxygen consumption (VO2) is the gold standard outcome measure to assess single free-living PA intensity. Nevertheless, several other outcome measures that are more economic, simpler and user-friendly than VO2 have also been used to assess a single-free living PA-related intensity, namely heart rate (HR) or dyspnoea Borg score. Different methodologies will probably yield different PA intensity levels, but this is yet unknown. This systematic review aimed to explore the agreement between the intensity level obtained by different outcome measures assessing the same single free-living PA.
Methods: A systematic search was conducted in May 2020 on PubMed, Scopus, Web of Science, Cochrane Library and EBSCO. We included original studies on COPD, assessing single free-living PAs-related intensity (individual types of PAs, which were performed by participants at their own pace within a restricted period of time, and pertained to leisure, occupation, home or transport PAs) and reporting on at least two of the following outcome measures: %VO2peak, %VO2reserve, %HRpeak, %HRreserve, metabolic equivalent task [METs], dyspnoea, perceived exertion or fatigue scores on the Borg 0-10 or 6-20 scales, or walking speed. Each single free-living PA had its intensity categorised as light, moderate or vigorous, following the cut-offs proposed by the American College of Sports Medicine and World Health Organization (table). Agreement was calculated as: number of agreements between two measures [same intensity level]/number of comparisons using both measures*100. In case of no agreement, we determined which outcome measure yielded the highest intensity using this formula: number of comparisons where the outcome measure had the highest intensity/number of comparisons where there was no agreement*100.
Results: Nineteen studies, enrolling 574 people with COPD (65 years, 61% men, 53% FEV1pp) were included. Percentages of agreement varied between 0 to 100% (table). %VO2 peak and %VO2 reserve consistently yielded the highest intensity level. Therefore, we can infer that PA-related intensity assessed with Borg scores, %HR reserve and METs was underestimated. Nevertheless, these results should be interpreted with caution, as 8 of the 18 comparisons were performed using only one study.
Conclusions: There is inconsistency among the PA intensity levels elicited by different outcome measures. Cut-offs points regularly used in healthy people to categorise PA intensity may not be suitable for people with COPD, hence, future studies developing specific cut-offs for COPD and formal guidelines on how to accurately measure single free-living PAs-related intensity in people with COPD are urgently required.

Keywords: *Chronic obstructive pulmonary disease. Physical activity. Intensity. Outcome measures. Free-living.*

Table 1: Percentage of agreement between the different outcome measures (n=19).

Outcome measures compared (number of studies used)		% of agreement	Outcome measure assigning the highest intensity
$\%VO_{2peak}$	$\%HR_{peak}$ (n=4)	76	50% VO_{2peak} / 50%HR_{peak}
	METs (n=1)	0	100% VO_{2peak}
	Dyspnoea Borg (n=7)	17.4	
	Fatigue Borg (n=4)	13.3	
	RPE Borg (n=1)	40	
$\%VO_{2reserve}$	$\%HR_{reserve}$ (n=1)	25	100% $VO_{2reserve}$
	Dyspnoea Borg (n=1)	25	
$\%HR_{peak}$	Dyspnoea Borg (n=3)	30	100% HR_{peak}
	Fatigue Borg (n=1)	0	
	RPE Borg (n=2)	36.4	
$\%HR_{reserve}$	Dyspnoea Borg (n=2)	100	NA
METs	Dyspnoea Borg (n=2)	60	50% dyspnoea Borg / 50% METs
	Walking speed (n=1)	0	100% METs
Dyspnoea Borg	Fatigue Borg (n=9)	88.5	100% dyspnoea Borg
	Walking speed (n=3)	66.7	
Fatigue Borg	METs (n=1)	75	100% fatigue Borg
	Walking speed (n=2)	100	NA
RPE Borg	Walking speed (n=1)	100%	NA

Note: Cut-offs used to categorise physical activities intensity – light: %VO2peak≤45; %VO2reserve≤39; %HRpeak≤63; %HRreserve≤39; METs≤2.9; dyspnoea/exertion/fatigue Borg 0-10 scores≤3 or Borg 6-20 scores≤11; and walking speed≤4.7km/h; moderate: 46<%VO2peak<63; 40<%VO2reserve<59; 64<%HRpeak<76; 40<%HRreserve<59; 3<METs<5.9; 4<dyspnoea/exertion/fatigue Borg 0-10 scores<6 or 12<Borg 6-20 scores<13; and 4.8km/h<walking speed<7.2km/h; and vigorous: %VO2peak≥64; %VO2reserve≥60, %HRpeak≥77; %HRreserve≥60; METs≥6; dyspnoea/exertion/fatigue Borg 0-10 scores≥7 or Borg 6-20 scores≥14; and walking speed≥7.3km/h. The Borg 0-10 and 6-20 scores were analysed together.
Legend: HR –heart rate; NA – not applicable; METs – Metabolic equivalent tasks; RPE – rate of perceived exertion; VO_2 –oxygen consumption.

Figure PC 106

PC 107. WHAT'S THE IMPORTANCE OF THE "SAW-TOOTH SIGN" IN PREDICTING OBSTRUCTIVE SLEEP APNEA?

E. Milheiro Tinoco, A.R. Gigante, D. Ferreira, D. Machado, I. Franco, I. Ladeira, I. Sanches, J.C. Gomes, R. Monteiro, R. Marçôa, R. Lima, M. Guimarães

Centro Hospitalar Vila Nova de Gaia/ESpinho.

Introduction: The "saw-tooth sign" in spirometry is associated with redundant upper airway tissue and snoring, but its predictive value for identifying obstructive sleep apnea (OSA) is disputed.
Objectives: To assess the prevalence of OSA in patients with the "saw-tooth sign". To compare patients with "saw-tooth sign", with and without OSA, regarding demographic characteristics, clinical presentation and pulmonary functional tests.
Methods: Retrospective study of patients with the "saw-tooth sign" followed at our outpatient clinic for sleep disorders between January/2018 and June/2021. The "saw-tooth sign" was elected after observation by a cardiopulmonologist and confirmation by a pulmonologist.
Results: 54 patients were included, 42 (77.8%) had OSA and 12 (22.2%) didn't. The results are sumarized in the table.
Conclusions: In our study there was a high prevalence of OSA in patients with the "saw-tooth sign" (77.8%); the majority of patients were male, with higher values of BMI and cervical perimeters, and lower values on epworth sleepiness scale. The evaluation of pulmonary functional tests can be an useful ally in the earlier suspicion of OSA. Continuing this study will help to understand the clinical impact of these findings.

Keywords: *Obstructive sleep apnea. Epworth sleepiness scale. Saw-tooth sign.*

PC 108. PULMONARY FUNCTION TEST AFTER SARS-COV-2 PNEUMONIA REQUIRING HOSPITALIZATION: THE EXPERIENCE OF A TERTIARY HOSPITAL

I. Fernandes Pedro, G. Moura Portugal, D. Escaleira, D. Correia, M. Dias, C. Carreiro, F. Parlato, S. Braz, S. Moreira

Serviço de Pneumologia, Laboratório de Fisiopatologia Respiratória, Hospital de Santa Maria, Centro Hospitalar Universitário Lisboa Norte.

Introduction: The lung is one of the main organs affected by COVID-19. As already described for SARS-CoV-1 and MERS-CoV infections, there are several international studies suggesting that patients recovered from COVID-19 may have respiratory functional abnormalities, even after acute illness.
Objectives: To characterize the functional abnormalities present in the lung function test (LFT) performed in the first months after hospital discharge due to SARS-CoV-2 pneumonia and, also, to assess the existence of risk factors, both for the patient and for the clinical course of the disease, which may be related to the functional abnormalities.