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The following communications:

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CO 016. Bronchoscopic approach to benign laringo-tracheal stenosis – one center experience

CO 034. Measurement properties of the portuguese version of the King's Brief Interstitial Lung Disease (KBILD) in interstitial lung disease

CO 035. Measurement properties of the portuguese version of Pulmonary Functional Status and Dyspnea Questionnaire – modified version (PFSDQ-M) and the Canadian Occupational Performance Measure (COPM) in interstitial lung disease

CO 036. Serum metalloproteinase 7 as a biomarker of progressive pulmonary fibrosis

Comunicações não foram incluídos no momento da publicação e por isso não seguem a paginação.

Communications were not included at the time of publication and for that reason, they do not follow the pagination.

CO 016. BRONCHOSCOPIC APPROACH TO BENIGN LARINGO-TRACHEAL STENOSIS – ONE CENTER EXPERIENCE

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Introduction: Benign laringo-tracheal stenosis (BLTS) results mainly from iatrogenic events, including tracheotomy, endotracheal intubation or trauma, and represents a major therapeutic challenge. Although surgical approach remains the standard of treatment, no clear consensus exists about the right approach in tracheal stenosis of nonmalignant cause. Interventional bronchoscopy can be a less invasive option.
Objectives: To evaluate the experience of a Bronchology Unit in treating BLTS secondary to various etiologies, analyzing the treatment methods used, long-term relapse rates, follow-up time and complications.
Methods: A retrospective study was performed, including patients diagnosed with BLTS, who were referred to the bronchology department and submitted to rigid bronchoscopy (RB) between January 2020 and December 2022. Patients without follow up after bronchoscopic intervention were excluded.
Results: In total, 25 patients with BLTS were included. The majority were women (n = 17; 68%) with a mean age of 56.2 ± 18.9 years. All the patients had acquired BLTE, mostly duo to previous endotracheal intubation (n = 13) or post-tracheostomy (n = 6). The remaining patients had BLTE related to vasculitis, pos-radiation therapy, infectious or idiopathic etiology. Stenosis characterization was made with 36% patients (n = 9) presenting with simple and 64% (n = 16) with complex stenosis; 60% (n = 15) with subglottic stenosis and 40% (n = 10) with tracheal stenosis; mean degree of obstruction was 64% (5 in grade 1, 15 in grade 2 and 5 in grade 3 at Cotton-

Meyer grading system). 16 patients were treated with mechanical dilation alone, 5 associated with laser therapy and 4 with endotracheal stent placement. Neither complications or mortality related to RB were observed. Relapse was detected in 72% (5 with simple and 13 with complex stenosis) patients after a mean follow-up of 29 months [1-132]. This led to the need of reintervention in all patients, with a mean of 2.2 per patient. 4 patients (16%) were submitted to laryngotracheal surgery after endoscopic treatment, without associated mortality or signs of relapse. Most of the patients continued to be followed up until today (49.5 ± 39.1 months). **Conclusions:** Management of BLTS depends on characteristics of the stenosis (type and extent) and patient comorbidities. Bronchoscopic approach, including mechanic dilation, laser or endotracheal stent, seems to have a lower cure rate and requires a greater number of procedures compared to surgery. However, surgical resection requires an experienced surgical team and can only be applied in well-selected cases. Bronchoscopic approach is a safe modality that can be performed as primary treatment and is an option in patients not eligible for surgery. Treatment of choice should always be discussed using a multidisciplinary approach.

Keywords: *Laringo-tracheal stenosis. Benign airway pathology. Rigid bronchoscopy.*

CO 034. MEASUREMENT PROPERTIES OF THE PORTUGUESE VERSION OF THE KING'S BRIEF INTERSTITIAL LUNG DISEASE (KBILD) IN INTERSTITIAL LUNG DISEASE

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Introduction and objectives: People with interstitial lung diseases (ILD) present a decline in functional status and health-related quality of life (HRQoL). There are several instruments to assess these patient-centered outcomes, however, their measurement properties for specific populations are often unknown. The aim of this study was to assess the reliability and validity of the King's Brief Interstitial Lung Disease (KBILD) for Portuguese adults with ILD.
Methods: An observational study was conducted with people with ILD recruited from routine pulmonology appointments. Sociodemographic and clinical data [lung function and 6-minute walk test (6MWT)] were retrieved from participants' medical notes and/or gathered with a structured specific questionnaire. At baseline, the KBILD, the St. George's Respiratory Questionnaire for idiopathic pulmonary fibrosis (SGRQ-I) and the London Chest Activities of Daily Living (LCADL) were first collected face-to-face, in an interview form. The KBILD was repeated 48h-72h after, via phone call, by two raters (2nd moment and 2nd rater). Reliability measures included Cronbach's to test internal consistency, intraclass correlation coefficient (ICC2,1) and respective 95% confidence intervals (95%CI) for test-retest and inter-rater reliability, Bland & Altman 95% limits of agreement (95%LoA) to test the agreement, standard error of measurement (SEM) and minimal detectable change (MDC95) for test-retest measurement error. Validity was assessed with the Spearman correlation coefficient (rho): criterion validity between SGRQ-I and KBILD and construct/divergent validity between lung function, 6MWT and KBILD and between LCADL and KBILD. Floor and ceiling effects were explored by quantifying the number of participants who scored at the maximum (ceiling) or at the minimum (floor) of each questionnaire. If more than 15% were at the maximum or minimum, the questionnaire was considered to have ceiling or floor effect, respectively.
Results: 167 people with ILD (63.6 ± 13.8 years old; 48.5% male; FVCpp 86.5 ± 19.7; DLCOpp 61.7 ± 21.0) participated. KBILD showed good to excellent internal consistency (= 0.74 for chest symptoms, = 0.87 for breathlessness and activities, = 0.89 for psychological and = 0.92 for total score), good to excellent test-retest (ICC2,1 = 0.79, 95%CI [0.70;0.85] for chest symptoms, ICC2,1 = 0.83, 95%CI [0.76;0.88] for breathlessness and activities, ICC2,1 = 0.78, 95%CI [0.67;0.86] for psychological and ICC2,1 = 0.83, 95%CI [0.73;0.89] for total score) and inter-rater (ICC2,1 = 0.95, 95%CI [0.92;0.97] for chest symptoms, ICC2,1 = 0.89, 95%CI [0.83;0.93] for breathlessness and activities, ICC2,1 = 0.89, 95%CI [0.82;0.93] for psychological, and ICC2,1 = 0.93, 95%CI [0.88;0.95] for total score) reliability, and good agreement between moments (mean = -3.97, 95%LoA [- 24.16;16.21]) and raters (mean = -0.27, 95%LoA [-14.42;13.88]) for total score, without evidence of systematic bias. The SEM and MDC95 were: 0.40 and 1.10 for chest symptoms, 0.57 and 1.59 for breathlessness and activities, 0.46 and 1.29 for psychological, and 1.16 and 3.22 points for total score. Correlations between KBILD and: i) SGRQ-I were significant, negative, and moderate to high (= -0.54 to -0.86; $p < 0.01$); ii) LCADL were significant, negative, and moderate to high (= -0.47 to -0.71; $p < 0.01$); iii) lung function and 6MWT were significant, positive, and small to moderate (= 0.23; $p < 0.05$ to 0.49; $p < 0.01$). No floor nor ceiling effects were found. **Conclusions:** KBILD has good reliability and validity indicators to assess HRQoL in Portuguese adults with ILD.

Keywords: *Interstitial lung disease. King's brief interstitial lung disease. Health-related quality of life. Validity. Reliability.*

CO 035. MEASUREMENT PROPERTIES OF THE PORTUGUESE VERSION OF PULMONARY FUNCTIONAL STATUS AND DYSPNEA QUESTIONNAIRE – MODIFIED VERSION (PFSDQ-M) AND THE CANADIAN OCCUPATIONAL PERFORMANCE MEASURE (COPM) IN INTERSTITIAL LUNG DISEASE

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Introduction and objectives: There are several instruments to assess functional status, however, their measurement properties for specific populations are often unknown. The aim of this study was to assess the reliability and validity of the Pulmonary Functional Status and Dyspnea Questionnaire - modified version (PFSDQ-M) and the Canadian Occupational Performance Measure (COPM) for Portuguese adults with interstitial lung disease (ILD).
Methods: An observational study was conducted with people with ILD. Sociodemographic and clinical data [lung function and 6-minute walk test (6MWT)] were retrieved from participants' medical notes. At baseline, the PFSDQ-M, the COPM, the St. George's Respiratory Questionnaire for idiopathic pulmonary fibrosis (SGRQ-I) and the London Chest Activities of Daily Living (LCADL) were first collected face-to-face, in an interview form. PFSDQ-M and COPM were repeated 48h-72h after by two raters, via phone call. Reliability measures included Cronbach's to test internal consistency, intraclass correlation coefficient (ICC2,1) and respective 95% confidence intervals (95%CI) for test-retest/intra-rater and inter-rater reliability, Bland & Altman 95% limits of agreement (95%LoA), standard error of measurement (SEM) and minimal detectable change (MDC95) for test-retest measurement error. For COPM, two raters classified all activities mentioned by the International Classification of Functioning, Disability and Health (ICF) second level classification. Inter-rater agreement was assessed through Cohen's kappa. Validity was assessed with the Spearman correlation coefficient (rho): criterion validity between LCADL and PFSDQ-M and COPM, and construct/divergent validity between lung function, 6MWT, SGRQI and PFSDQ-M

and COPM. Floor and ceiling effects were explored and considered existing If more than 15% of participants were at the maximum or minimum score.
Results: 167 people with ILD (64 ± 14 years old; 49% male; FVCpp 87 ± 20; DLCOpp 62 ± 21) participated. PFSDQ-M showed excellent internal consistency (= 0.92 a = 0.97), good test-retest and inter-rater reliability (ICC2,1 = 0.76-0.87, 95%CI [0.65,0.91] and ICC2,1 = 0.84-0.87, 95%CI [0.75,0.92], respectively), and good agreement between moments (mean = 7.47, LC95% [-46.06, 61.00]) and raters (mean = -0.24; LC95% [-52.63; 52.14]), without evidence of systematic bias. SEM and MDC95 ranged from 0.56-2.38 e 1.56-6.60, respectively. Correlations between PFSDQ-M and: SGRQ-I and LCADL were significant, positive, and moderate to high (= 0.59 to 0.82, p < 0.01; lung function and 6MWT were significant, negative, and small to moderate (= -0.23 a -0.44; p < 0.01). COPM showed good to excellent test-retest/intra-rater and inter-rater (ICC2,1 = 0.78-0.86, 95%CI [0.66,0.91] and ICC2,1 = 0.73-0.92, 95%CI [0.58,0.95], respectively) reliability, and good agreement between moments (mean = -0.07 e - 0.33; LC95% [-2.12; 1.98] and [-3.32; 2.66]) and raters (mean = -0.04 e -0.29; LC95% [-1.42; 1.35] and [-3.27; 2.69]) for total scores, without evidence of systematic bias. SEM and MDC95 ranged from 0.25-0.32 and 0.70-0.88, respectively. Inter-rater agreement for the COPM's classification using ICF two-level was almost perfect (k = 0.86). Correlations between COPM and: SGRQ-I and LCADL were significant, negative, and moderate (= -0.47 to -0.65, p < 0.01); lung function and 6MWT were non- significant (p < 0.05), except for performance and 6MWT distance, FEV1 e FVC (= 0.26 to 0.36, p < 0.01) and for satisfaction and FEV1 and FVC (= 0.22 and 0.24, p < 0.05). Floor effects were found in PFSDQ-M.
Conclusions: PFSDQ-M and COPM have good reliability and validity indicators to assess HRQoL in Portuguese adults with ILD.

Keywords: *Interstitial lung disease. Pulmonary functional status and dyspnea questionnaire - modified version. Canadian occupational performance measure. Functional status. Validity. Reliability.*

CO 036. SERUM METALLOPROTEINASE 7 AS A BIOMARKER OF PROGRESSIVE PULMONARY FIBROSIS

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Introduction: Progressive pulmonary fibrosis (PPF) is defined as an Interstitial Lung Disease (ILD), other than Idiopathic Pulmonary Fibrosis (IPF), with clinical, physiological and/ or radiological evidence of disease progression resembling IPF behavior. The matrix metalloproteinases (MMPs) have been implicated in the pathogenesis of lung fibrosis and MMP-1 and MMP- 7 have been suggested as an IPF diagnostic biomarker.
Objectives: To investigate MMP-1 and MMP-7 in the identification of fibrotic non-IPF ILD patients at risk for PPF.
Methods: We measured MMP-1 and MMP-7 serum levels in 79 fibrotic non-IPF ILDs patients: 35 Connective Tissue Disorder-ILD, 23 Fibrotic Hypersensitivity Pneumonitis, 13 Sarcoidosis, 6 Nonspecific Interstitial Pneumonia and 2 Unclassified Fibrotic ILD. PPF was defined according with the ATS/ERS/JRS/ALAT Clinical Practice Guideline.
Results: The mean age was 62 years, 75.9% females. PPF criteria was met by 33 (41.7%) patients. MMP-7 (but not MMP-1) was significantly higher in the PPF group (p = 0.01). Using the binary logistic regression model MMP-7 was independently associated with PPF (OR = 1.263; 95%CI 1.029-1.551, p = 0.026), remaining significant after adjusting for sex, age and smoking history; the cutoff of 3.526 ng/mL presented a sensitivity of 61% and a specificity of 74% for PPF.
Conclusions: MMP-7 was significantly higher in the group of patients with PPF. This may be considered and further explored as a possible biomarker to identify those fibrotic ILDs patients at risk of PPF.

Keywords: *Serum metalloproteinases. Progressive pulmonary fibrosis.*