The prevalence of patients with rheumatic diseases and its periodontal condition: data from a population-based study in the Lisbon Metropolitan Area

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ABSTRACT
Introduction: Histology knowledge is important to medical sciences as well as an important support to understand the pathology. However, teachers and students feel the need for innovative methods for teaching normal histology [1]. The project of the Histology Egas Moniz digital platform was born to involve our students of several curricular years and to dynamise the teaching of Histology.
We believe that the interaction between teachers and students should be enhanced. The younger generations have a set of digital tools that teachers should seek to accompany and encourage. All the mechanisms that result in benefits for the academic formation of our students must be supported as well.
The challenge was launched, and I invited students from the first year to the last year and we started to work. Same of the co-workers are now MDs.
Materials and methods: The samples were collected from our morphology laboratory. All the samples were processed to be observed by light microscopy. Then, the most didactic samples were selected and photographed. The identification and description of the photos were performed. Parallely, we wrote the text about the main tissues that was included in the digital platform. We also prepared an interactive quiz with the questions and the answers to facilitate the study when our students are preparing for their exams.
The existence of a team that has been working at long term moved by a common teaching pedagogical goal identified under the general mission of Egas Moniz and carrying its "DNA" for the future generations.
Results: For the time being, the base structure of the digital platform has a technical sheet, 5 chapters dedicated to the main types of tissues and they are all illustrated with original photographs prepared by the work team. Also, a QUIZ with 50 original questions has been prepared, with the answer to each question given interactively.
Discussion and conclusions: This is a pilot project inside our organisation and our study's methodology, but it's true that this kind of digital platforms have been performed in other Universities and seem to be a success [2]. We believe that the final product doesn't have a stop because the dynamic is important, and the authors want to increase value and periodic improvements based on the student's appreciations in the future. We believe that pedagogically it is a very relevant initiative that must continue its development.

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The prevalence of patients with rheumatic diseases and its periodontal condition: data from a population-based study in the Lisbon Metropolitan Area

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ABSTRACT
Introduction: Periodontitis is a major condition associated with rheumatic diseases (RDs) [1] and some studies have clarified the effect of the oral microbiome in RDs [2,3]. However, due to the lack of information this observational study aimed to describe the periodontal status of RDs in a sample of patients from a population-based epidemiologic survey carried out in the southern Lisbon Metropolitan Area.

Materials and Methods: From December 2018 to April 2019, a total of 1064 patients, from public health centres of Almada-Seixal Group of Centres, were randomly enrolled in the study. RDs were assessed through a medical history and medication questionnaire. Periodontitis and Gingivitis were circumferentially evaluated according to the 2018 World Case Definitions [4,5] by two calibrated examiners (J.B. and V.M). This study was approved by the ARSLVT Ethics Committee (3525 & 8696/CES/2018).

Results: Overall, the prevalence of rheumatic conditions was 2.8% (95% CI: 1.8–3.8%) ($n = 30$). Individual RD prevalence distribution in the study group were as follows: rheumatoid arthritis (RA) 23.3% ($n = 7$), fibromyalgia (FM) 36.7% ($n = 11$), systemic lupus erythematosus (SLE) 10.0% ($n = 3$), arthritis (ART) 13.3% ($n = 4$), gout 3.3% ($n = 1$), systemic scleroderma 3.3% ($n = 1$), FM + osteoarthritis (OA) 3.3% ($n = 1$), FM + SLE 3.3% ($n = 1$), FME + OA + ART 3.3% ($n = 1$). The prevalence of periodontitis among RD patients was 60% ($n = 18$), with 13.3% ($n = 4$), 16.7% ($n = 5$) and 26.7% ($n = 8$) of mild, moderate and severe stages, respectively. Gingivitis cases were residual, 3.3% ($n = 1$). The average missing teeth were 10.7 (± 6.8) and the mean percentage of probing depth ≥ 4 mm was 5.7% (± 10.9%).

Discussion and conclusions: Despite the low incidence of RDs, these results reveal a considerable high prevalence of periodontitis and gingivitis among those patients. Also, the average number of missing teeth is worrisome. These findings unveil a very disturbing high burden of periodontitis in this sample of Portuguese rheumatic patients and roots basis for future public health measures implementation.

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Translucency evaluation of an ultra-translucent monolithic zirconia and a super translucent multilayer zirconia: a pilot study on the thickness effect

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ABSTRACT

Introduction: The increasing application of zirconia as an aesthetic material has led to an evolution with improvement on its optical properties [1]. Nowadays, zirconia presents a compatible translucency with natural teeth. Depending on the clinical situation, you can choose a more translucent or more opaque zirconia. Due to its excellent mechanical properties, it is possible to return the function and aesthetics through a restoration with thicknesses lower than those required by other materials [2].

Materials and methods: Twenty specimens of pre-sintered ultra-translucent (UT) monolithic zirconia (Bloomden W00098014UT) and twenty specimens of pre-sintered super translucent (ST) multilayer zirconia (Bloomden W00098016ST-ML-A2) were cut through the computer-aided design/computer-aided manufacturing system (Wieland Dental). For each type of zirconia, four subgroups ($n = 5$) were defined according to its thickness: 0.5, 1.0, 1.5 and 2.0 mm. All monolithic specimens were coloured with colouring liquid (BloomZir® UT Coping Crown A2) for 2 min. Finally, all zirconia specimens were sintered in the furnace (IMES-Wieland Zeno® Fire) at a temperature range of $1500 - 1550 \,^{\circ}C$ and subsequently submitted to an ultrasonic bath (VGT-2120QTD 20 L) [3]. The values of L^*, a^* and b^* were measured, under natural light (D65), using the spectrophotometer SpectroShade Micro (MHT S.p.A., Arbizzano di Negrar, Itália) at six different locations on a white background (*Comission Internationale de l' Éclairage* (CIE) $L^* = 95.6$ $a^* = 0.8$, $b^* = 0.1$) and on a black background ((CIE) $L^* = 13.2$, $a^* = 0.8$, $b^* = -0.7$). Translucency was assessed through the contrast ratio (CR) [4] and the translucency parameter (TP) [5]. Data was submitted to descriptive statistical analysis.

Results: Mean CR values ranged from 0.7 (± 0.0) to 0.9 (± 0.0) in UT monolithic zirconia and 0.8 (± 0.0) to 0.9 (± 0.0) in the ST multilayer zirconia. Mean TP values ranged from 14.1 (± 0.3) to 26.7 (± 0.4) in UT monolithic zirconia and 9.9 (± 0.4) to 18.6 (± 0.3) in ST multilayer zirconia. As thickness increases, translucency values decreased, in both materials.