

5th Statistics on Health Decision Making: Personalized Medicine

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CONFERENCE ABSTRACTS

ID	Poster	Page
P01	Analysis of cervical node metastasis in oral cavity squamous cell carcinoma patients Leonor Cruz Silva*, José Cunha Coutinho, Gonçalo Cunha Coutinho, Ricardo Miguel Vieira de São João, Tiago Dias Domingues, Cecília Caldas, Paulo Palmela, Miguel Nobre, Francisco Salvado *leonormcruzesilva@hotmail.com	4
P02	Odontometrics analysis as tool of Legal Medicine discipline to decide about perfil postmortem of cadavers: apply in a commingled archaeological human population related to 1755 Lisbon's earthquake Cristiana Palmela Pereira*, Valon Nushi, Tatiana Major, Guilherme Borges, Lara Lopes, Lisa Zheng, Ana Rodrigues, Rui Santos *cpereira@campus.ul.pt	4
P03	Forensic dental age assessment: effect size on real age forensic medical report Cristiana Palmela Pereira*, Valon Nushi, Diana Augusto, Adriana Santos, Mafalda Marques, Sakher J. AlQhatani, Rui Santos *cpereira@campus.ul.pt	5
P04	Effect of statins intake in the risk for progression of age-related macular degeneration – a comparison of two Cox regression models applied to the Coimbra Eye Study Rita Coimbra*, Patrícia Barreto, Cláudia Farinha, Rufino Silva *racoimbra@aibili.pt	5
P05	Association between the adrenoreceptor $\beta 2$ gene and pediatric asthma severity – a study of the PACMAN cohort Maria Leonor Caleiro*, Patrícia Soares, Marília Antunes. *leonor.caleiro@hotmail.com	6
P06	Communication strategies used by health professionals and finalist students from health areas with people with aphasia Daniela Jesus, Ana Rita Pinheiro, Pedro Sá-Couto, Maria A. Matos* *maria.matos@ua.pt	6
P07	Association of the practice of contact sports with the development of amyotrophic lateral sclerosis Ana Rita Henriques*, Marta Gromicho, Julian Grosskreutz, Magdalena Kuzma-Kozakiewicz, Susanne Petri, Hilmi Uysal, Susana Pinto, Marília Antunes, Mamede de Carvalho, Ruy M. Ribeiro *anarita.henriques@nms.unl.pt	7
P08	Self-perceived functioning in relation to existing symptoms 12 months after SARS-COV-2 infection in workers of an industrial facility in Aveiro Region – an observational study. Ana R. Pádua, Marco Gama, João Conde, Joaquim Alvarelhão* *jalvarelhao@ua.pt	7
P09	Disclosing gene signatures in gliomas via classification and dimensionality reduction methods João F. Carrilho*, Roberta Coletti, Marta B. Lopes *jf.carrilho@campus.fct.unl.pt	8
P10	Explanatory variables consistency and association strengths in sepsis diagnosis: a methods comparison Vanusa Rocha*, Vera Afreixo, Luís Cabral *vanusa.rocha@docente.unicv.edu.cv	8
P11	Identification of the molecular basis of heart failure through Microarray merging Sandra Magalhães*, Sílvia O. Diaz, Adelino Leite-Moreira, António S. Barros *svmagalhaes@med.up.pt	9
P12	What is the predictive value of ambulatory blood pressure monitoring (ABPM) in terms of future cardiovascular events for patients with resistant hypertension? Simão Carvalho*, Carlos Costa, Flávio G. Pereira, Susana Lopes, José Mesquita Bastos. *almeidacarvalho.simao@gmail.com	9

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P07

Association of the practice of contact sports with the development of amyotrophic lateral sclerosis

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Keywords: amyotrophic lateral sclerosis, contact sports, risk-factor, smoking, trauma

Objectives: Amyotrophic lateral sclerosis (ALS) is a rapidly progressive neurodegenerative disease, currently with no cure, involving mainly the motor system. High-intensity physical activity and sports prone to repetitive injuries of the cervical spine and head (when associated with vigorous practice) have been suggested as possible risk factors for ALS. Our objective was to evaluate the relationship between the practice of contact sports (boxing, hockey, football, rugby) and ALS.

Methods: The study included 2247 individuals, 1326 patients and 921 controls from several European countries. Analysis of the effect of contact sports on ALS was conducted in male participants only, as very few women practiced contact sports. Logistic regression models were used with the response variable as the presence or absence of ALS, with $\alpha=5\%$ significance level.

Results: A relationship between the practice of contact sports and ALS was found, with those practicing contact sports having 76% higher odds of an ALS diagnosis (OR=1.76, $p=0.001$). In addition, univariate analyses for age (higher risk for older people, $p<0.001$), smoking status (higher risk for ex-smokers, $p=0.022$) and tobacco exposure (higher risk for more exposure, $p=0.038$) also indicated that these variables are risk factors for ALS. In multivariate models, in addition to age, the interaction term between practice of contact sports and tobacco exposure was still significant ($p=0.03$).

Conclusions: This is one of the largest studies on the role of contact sport in ALS development. Our results support the existence of a relationship between the practice of sports with repetitive trauma at the level of the cervical spine and head, and ALS. This risk appears to be enhanced by tobacco exposure.

P08

Self-perceived functioning in relation to existing symptoms 12 months after SARS-CoV-2 infection in workers of an industrial facility in Aveiro Region – an observational study.

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Keywords: Functioning; Occupational; Health; SARS-CoV-2; Symptoms; WHODAS 2.0; Worker

Background/Objective: Most individuals recover after acute SARS-CoV-2 infection, but some may suffer persistent symptoms with potential medium and long-term consequences. The present study aims to analyze self-perceived functioning concerning existing symptoms 12 months after SARS-CoV-2 infection in workers of an industrial facility in the Aveiro Region.

Methods: Observational study, including workers with a positive SARS-CoV-2 RT-PCR/TRAg test. After 12 months of the infection, the occupational health team collected information on sociodemographic variables, manifested symptoms, and perceived functioning assessed using the WHODAS-2.0–12 items - where '12 points' means the highest functioning. Data analysis included descriptive statistics and univariate and multivariate linear regression.

Results: Eighty-five workers were infected with SARS-CoV-2, 77.7% were male, with a mean age of $36y1m\pm9y8m$, 36.8% have a higher education level and 17.7% reported at least one chronic condition. Thirty workers (35.3%) reported persistent symptoms, with fatigue (27.7%) and arthralgia (14.4%) being the most described. Whodas 2.0 mean score was $15,7\pm5,0$, and items most frequently reported as presenting limitations were difficulties in working (43.5%), concentrating (35.3%), and walking one kilometer (35.3%). Self-perceived functioning depended on educational level ($\beta=-2.37$, CI95% -4.53 ; -0.21) or the existence of a chronic illness ($\beta=3.53$, CI95% 0.81 ; 6.24), and the level of functioning is associated with the persistence of symptoms of fatigue ($\beta=4.02$, CI95% 1.75 ; 6.29), headache ($\beta=4.13$, CI95% 0.84 ; 7.42), and myalgia ($\beta=3.30$, CI95% 0.14 ; 6.45).

Conclusions: Persistent symptoms 12 months after symptomatic SARS-CoV-2 infection have an influence on self-perceived functioning. Occupational health services should regularly address the assessment of persistent symptoms of SARS-CoV-2 infection to prevent possible impacts on daily activities and participation.