of specific and high sensitive criteria of axSpA do not improve the situation because one of the main reasons of late axSpA diagnostics is the increased period when the patient with typical axSpA symptoms do not referred by general practitioner (GP) to the rheumatologists (so called «human factor»). The increasing role of internet online technologies can make way from GP to rheumatologist shorter and decrease the diagnostics delay in axSpA.

Objectives: To develop the online questionnaire that calculates probability of having axSpA and evaluate the advantages of the method of online based detection of axSpA under the traditional ways of axSpA search.

Methods: Based on positive and negative predictive values of symptoms from ASAS axSpA criteria (2009) the axSpA Early Diagnostics Questionnaire (aEDQ) was developed. The aEDQ was available on website of Russian Ankylosing Spondylitis Association from October 2018. Link to the aEDQ could be obtained directly on the site and additionally by using one of 1,500 related to axSpA keywords approved by 5 rheumatologists from Russian SpA Expert Group. Those of participants who had high risk of axSpA according aEDQ were recommended to visit the rheumatologist, related to axSpA diagnostics. Participants with low risk of axSpA were sent to their GP. Collected data of diagnostics delay and capacity of the aEDQ were compared with data from demographically matched populations from EMAS online survey from 13 European countries (n=2,846), and SPACE cohort results (n=461) [1, 2], and from Russian North-Western axSpA LADOGA register (n=1,544). This study used only anonymized data. Statistical analysis was performed with Statistica SPSS2017, GraphPadPrizme 2016.

Results: Since October 2018 until January 2019 in Saint-Petersburg 22,925 people visited the aEDQ, 21,939 (95.6%) people filled out the questionnaire. Out of 21,939 people filled out questionnaire 7,888 (35.95%) people has high risk of axSpA. Within one month after passed the questionnaire 424 people with high risk of axSpA (5% out of all who had the recommendation) consulted by rheumatologist (mean age 42±6.6 years, male 275 (65%), symptoms duration 4.4 ± 3.0 years, HLA-B27 positive 292 (68.3%)). In 254 patients out of 424 (59.9%) presence of axSpA was confirmed as compared with 44.6% in SPACE cohort results ($\chi^2 = 19.24$, $p < 0.000$ for differences with SPACE cohort results [2]).

Mean diagnostics delay in aEDQ cohort was 4.4 ± 3.0 years (mean ± SD), $n = 254$, in axSpA patients with traditional way of axSpA search in LADOGA register was 8.8 ± 4.8 years, $n = 1,544$ (LADOGA study results), and 7.4 ± 8.4 years in EMAS survey [1], $p < 0.0001$ for all the differences.

Conclusion: Online axSpA Early Diagnostics Questionnaire with function of calculation of axSpA probability can decrease diagnostics delay and increase percentage of confirmed by rheumatologist axSpA diagnosis as compared with another forms of axSpA search.

References:

- [1] Garrido-Cumbrera M, EMAS Working Group. Curr Rheumatol Rep. 2019; 21(5): 19. doi: 10.1007/s11926-019-0819-8
- [2] Poddubnyy D, et al. RMD Open. 2018 Dec 5;4(2):e000825. doi: 10.1136/rmdopen-2018-000825. eCollection 2018.

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AB0687

THE PROBABILITY OF SPONDYLOARTHRITIS IN PATIENTS WITH UVEITIS

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Background: Uveitis is a heterogeneous group of inflammatory eye diseases, some of which may be associated with spondyloarthritis (SpA). The probability of SpA depends on the clinical features of uveitis.

Objectives: To evaluate the probability of SpA depending on the clinical features of uveitis.

Methods: 208 patients with uveitis referred from ophthalmologists were assessed at the Institute of Rheumatology. 139 of 208 pts had an acute recurrent course of uveitis, 69-chronic course; 149 of 208 had isolated anterior uveitis, 59 – panuveitis involving the posterior and/or intermediate part of the eye; 160 had unilateral uveitis, 48 – bilateral; 106 had HLA- B27, 102 – without HLA-B27. In addition to HLA- B27, a survey was performed to identify

clinical and imaging signs of SpA, including radiography and MRI of sacroiliac joints.

In 60 cases (28.8%), various SpA were identified (20 – ankylosing spondylitis, 2- reactive arthritis, 38 – non-radiographic SpA). In 148 pts SpA was not confirmed (4 of them had Behcet's disease, 2-sarcoidosis, 4-toxoplasmosis, 29 - viral uveitis, 1 - Fux syndrome, 2 – Vogt-Koyanagi- Harada syndrome, 2 - multiple sclerosis, 104 – unspecified uveitis).

Sensitivity (Se) and specificity (Sp), relative risk (RR), 95% confidence interval (CI), and likelihood ratio (LR) were calculated for each clinical parameter of uveitis with the following assessment of the probability of SpA.

Results: Pretest probability of SpA in the group was 28.8%, that corresponds to pretest odds of 0.4. Among 139 pts with acute recurrent uveitis SpA was identified in 45 (32.3%), among 69 with chronic uveitis – in 15 (21.7%), RR=1.49, 95% CI [0.896, 2.475], LR-1.17. Among 149 pts with isolated anterior uveitis SpA was in 55(36.9%), among 59 with panuveitis – in 5(8.5%), RR=4.36, 95% CI [1.8, 10.3], LR-1.43. In a subgroup of 160 pts with unilateral uveitis SpA diagnosed in 51 (31.9%), in a subgroup of 48 with bilateral uveitis – in 9 (18.7%), RR = 1.7, 95% CI [0.9, 3.1], LR-1.14. Among 160 HLA-B27-positive pts SpA detected in 56 (52%), among 102 HLA-B27- negative – in 4 (3.9%), RR=13.4, 95% CI [5.1, 35.8], LR-2.7. Taking into account the pretest odds and likelihood ratio of all parameters, posttest odds was 2.7, that corresponds to posttest probability of 67%.

Conclusion: A combination of such signs of uveitis as isolated localization in the anterior part of the eye, acute recurrent course, unilateral inflammation, HLA-B27, increases the probability of SpA more than 2 times

References:

- [1] Sykes M, Hamilton L, Jones C. et al. Prevalence of axial spondyloarthritis in patients with acute anterior uveitis: a cross-sectional study utilising MRIRMD Open. 2018 Feb 24;4(1):e000553. doi: 10.1136/rmdopen-2017-000553. eCollection 2018.
- [2] Bubová K., Gregová M., Zegzulková K. et al. Active sacroiliitis on magnetic resonance imaging in patients with anterior uveitis. Ann Rheum Dis. 2019; 78(2): A470. https://doi/10.1136/annrheumdis-2019-eular7439.

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AB0688

GAIT PATTERN DIFFERENCES BETWEEN PATIENTS WITH RADIOGRAPHIC AND NON-RADIOGRAPHIC AXIAL SPONDYLOARTHRITIS, THE MYOSPA STUDY

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Background: Axial spondyloarthritis (axSpA) is a chronic inflammatory disease classified as radiographic (r-axSpA) or non-radiographic (nr-axSpA). Defining the gait patterns associated with these two groups can improve its detection and promote early intervention. In normal walking, body segments move around the joints as struts of an inverted pendulum. The resultant cyclic rotations contribute to the forward translation of the body, while minimizing muscle work and maintaining stability. Recent literature describes a decline in this pendulum-like mechanism associated with aging and some neurological diseases (Parkinson and multiple sclerosis).

Objectives: The aim was to compare the 3D gait kinematics of patients with r-axSpA and nr-axSpA.

Methods: A cross-sectional study was conducted on 54 participants (18-50 years old), 27 patients with axSpA (according to ASAS criteria, with less than 10 years since symptoms onset) and 27 healthy controls, matched by gender, age and level of physical activity. A sub-analysis was performed involving the whole group of patients classified as r-axSpA (n=14) and nr-axSpA (n=6). Subjects movement was reconstructed using a 3D full-body kinematic model (Kinetikos, Coimbra, Portugal) fed by 15 inertial sensors placed in the head, arms, trunk, pelvis, thighs, shanks and feet. 3D gait kinematics was characterised based on variables that analyse the body movement as a whole (e.g. center of mass displacement, speed), conventional spatiotemporal parameters (e.g. stance/swing time, step length) and joints kinematics time-normalized to 101 points, comprising the gait cycle from 0 to 100%. Nonparametric statistical tests were used.

Results: In the r-axSpA group, 71.4% were male, with a mean age of 34.43±7.84 years and a BASDAI of 2.84±2.39, whereas in the nr-axSpA, 50%

were male, with a mean age of 41.83 ± 6.27 years and a BASDAI of 2.99 ± 0.58 . A statistically significant difference was observed in the displacement of the center of mass (with respect to the pelvis local coordinate system) along the anteroposterior axis between the two studied groups ($H = 4.96$, $p = 0.03$), with a mean rank displacement of 8.6 for r-axSpA and 15.00 for nr-axSpA, corresponding to a reduction in displacement of 38% (mean 0.00986 vs 0.01579 m), in the r-axSpA group.

Conclusion: Our preliminary results in r-axSpA subjects show a reduction of the pendulum mechanism. Although no significant segmental (kinematics) changes were observed, the sum of all studied variables result in a clear different gait pattern between the two groups. The observed decline can be an early sign of the inefficiency of the r-axSpA group to minimise the cost of transport of the center of mass during walking (i.e. increased instability). This study shows the potential of gait analysis to identify subjects who may benefit from early physiotherapy intervention.

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AB0689

THE IMPORTANCE OF THE SUN. VITAMIN D AND SPONDYLOARTHRITIS: OUR EXPERIENCE IN A THIRD LEVEL HOSPITAL.

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Background: Vitamin D plays an important role in the pathogenesis of autoimmune diseases, so that it has been shown that an adequate level is associated with a lower risk of developing this group of entities as well as a lower severity of them. Specifically, in spondyloarthritis (SpA) the deficiency has been associated with greater aggressiveness and greater radiological progression.

Objectives: Assess levels of vitamin D in patients diagnosed with SpA in the León University Assistance Complex and study its possible relationship with different clinical-epidemiological variables.

Methods: Prospective observational study between January 1, 2019 and December 31, 2019 with consecutive sampling of patients diagnosed with SpA (New York criteria, ASAS) in our hospital between 1973 and 2018. It was taken as a cut-off point for vitamin normality D those values ≥ 30 ng / ml. The disease activity was assessed based on BASDAI and CRP level (taking as a cut-off point 5 mg/l, reference value of our hospital and ruling out elevation due to intercurrent processes) in the last consultation. Positive values above 130 mg/dL were considered for the orosomucoid and for calprotectin as undetermined values between 50-100 mg/kg feces and suspected IBD greater than 100 mg/kg feces. An attempt was made to link the value of vitamin D with disease activity, tobacco, the development of uveitis and the presence of subclinical intestinal inflammation.

Results: 132 patients were included, of which 60.6% were men with a mean age of 49.35 ± 12.95 years. 84.8% were B27 positive. 88.6% met New York criteria. 35.6% suffered uveitis at some time during their evolution. As for tobacco, 68.2% were non-smokers, 12.9% were former smokers and 18.9% were active smokers. 6.8% of the sample presented positivity for the orosomucoid and 37.8% alterations in calprotectin (of which 24.2% were undetermined and 13.6% suspected of inflammatory bowel disease). Only 25% of patients had elevated CRP levels and 11.4% of patients had BASDAI > 4. 50.8% of our sample had optimal levels of Vitamin D while 49.2% were at low values.

A statistically significant association was observed between hypovitaminosis D and elevated CRP levels ($p = 0.038$). In our sample we found no statistical association with uveitis or with markers of subclinical inflammatory activity.

Conclusion: -Almost half of the patients in our sample have hypovitaminosis D which is probably attributable to the meteorological characteristics of León region.

-Low levels of vitamin D are statistically significantly related to higher levels of CRP and, therefore, with greater disease activity.

-No significant relationship was found with uveitis or with a higher risk of subclinical intestinal inflammation in our sample.

References:

- [1] Castro Domínguez F, Salman Monte TC, Blanch Rubió J. *Vitamin D in rheumatic diseases*. Rev Osteoporos Metab Miner. 2017; 9 (1) supplement: 31-39.

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AB0690

ANTIPHOSPHOLIPID ANTIBODIES AND SPONDYLOARTHRITIS. TRUTH OR MYTH? OUR RESULTS IN A THIRD LEVEL HOSPITAL.

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Background: The importance of antiphospholipid antibodies and their clinical involvement in thrombotic phenomena, isolated or associated with certain autoimmune diseases such as systemic lupus erythematosus, is known. However, in spondyloarthritis (SpA) there is little published data about it.

Objectives: Identify the presence of antiphospholipid antibodies in patients diagnosed with SpA in the León University Assistance Complex and analyze its possible relationship with different clinical-epidemiological variables.

Methods: Prospective observational study between January 1, 2019 and December 31, 2019 with consecutive sampling of patients diagnosed with SpA (New York criteria, ASAS) in our hospital between 1973 and 2018. Anti-cardiolipin antibodies, anti-B2 glycoprotein and Lupus anticoagulant (AL) were the requested antiphospholipid antibodies excluding cases of positivity for other causes (coagulopathy, liver disease) and repeating the determination at 12 weeks. The disease activity was assessed based on BASDAI and CRP level (taking as a cut-off point 5 mg/l, reference value of our hospital and ruling out elevation due to other intercurrent processes) in the last consultation. An attempt was made to link antiphospholipid antibodies with sex, disease activity, cardiovascular risk factors (CVRF), thrombotic events and taking anti-TNF.

Results: 132 patients were included, of which 60.6% were men with a mean age of 49.35 ± 12.95 years. 84.8% were B27 positive. 88.6% met New York criteria. 43.2% had CVRF, highlighting arterial hypertension (HT) in 25%; dyslipidemia (DL) in 24.2%; Obesity in 3.8%, hyperuricemia in 3% and diabetes mellitus (DM) in 2.3%. 43.9% of the patients were being treated with an anti-TNF. Only 25% of patients had elevated CRP levels and 11.4% had BASDAI > 4.

38.7% of the sample had positive antiphospholipid antibodies; of which 58.8% (22.7% of total patients) were confirmed. Of these, AL was the predominant in 90.2% of cases (34.9% of the total number of patients). Likewise, 10% of patients with repeated antiphospholipid antibodies met criteria for antiphospholipid syndrome (thrombi).

It was observed in our sample that female sex can behave as a protective factor against the positivity of AL ($p = 0.002$) and that elevated CRP levels show a statistically significant tendency to the presence of AL (since the first positive determination was related with a $p = 0.013$).

Conclusion: -According to our results, it seems important to determine antiphospholipid antibodies (especially AL) in patients with SpA, especially in order to avoid future thrombotic events.

-There seems to be a trend between disease activity and the probability of presenting positive AL, however, more studies are needed to confirm this hypothesis.

-The female sex, in our sample, can be considered a protection factor against this antibody.

References:

- [1] Juanola X, Mateo L, Domench P, Bas J, Contreras Montserrat, Nolla JM, Roig-Escofet D. *Prevalence of antiphospholipid antibodies in patients with ankylosing spondylitis*. J Rheumatol 1995; 22: 1891-3.

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AB0691

CHARACTERIZATION OF DIFFERENT GROUPS WITH IMAGING AND NON-IMAGING FINDINGS OF ANKYLOSING SPONDYLITIS COMBINE WITH HIP LESION IN WESTERN CHINESE

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