AB0495

INCREASED WORK LOSS DURING PREGNANCY IN WOMEN WITH SYSTEMIC LUPUS ERYTHEMATOSUS COMPARED TO MATCHED HEALTHY CONTROLS

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Background: Women with systemic lupus erythematosus (SLE) might be more vulnerable to reduce or stop working during pregnancy because of the increased risk of pregnancy complications compared to the general population. However, no data on work loss during pregnancy and return to work after maternity leave in patients with SLE are available.

Objectives: We aimed to investigate several work outcomes during and after pregnancy in women with SLE compared to matched pregnant controls.

Methods: A case-control study on employment was performed in pregnant women with SLE and matched controls. Matching criteria were age, year of delivery, and number of living infants. Employment was defined as having ≥ 8 hours/week of paid work before conception. Four work outcomes were investigated: interruption of work for >1 week during pregnancy, complete cessation of work for >1 week until delivery, reduction in working hours during pregnancy, and the time in weeks to return to work after maternity leave.

Results: A total of 42 women were included (21 SLE patients, 21 controls). Mean SELENA-SLEDAI before pregnancy in SLE patients was 2.6 (SD 2.3). Interruption of work for >1 week or completely stop working during pregnancy occurred in 10 SLE women, compared to 2 controls (OR=8.6, 95% CI [1.6-46.8], $p=0.012$). From the women who completely stopped working until delivery ($n=8$), 7 women had SLE (OR=1.4, 95% CI [0.07-28.1], $p=0.826$). In addition, in women continuing work, reduction of working hours occurred in 5 women with SLE versus 3 controls (OR=1.9, 95% CI [0.4-9.1], $p=0.436$).

After delivery, the median (IQR) duration of return to work after maternity leave was 4 weeks after maternity leave (0 - 6.8) for women with SLE and 2 weeks later (0 - 4) for controls (Mann-Whitney U test; $p=0.977$). No difference in number of women with delay of return to work after maternity leave (yes/no) was found between women with SLE and controls ($n=9$ versus $n=11$, respectively; OR=1.0, 95% CI [0.3-3.7], $p=0.973$).

Conclusion: Pregnant women with SLE more frequently completely stop working or reduce working hours compared to matched healthy controls. These findings warrant improved counseling of these women and attention of health care providers, including company doctors.

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18F-FDG-PET/CT, 11C-METHIONINE-PET/CT AND MULTI-PARAMETRIC MRI IN THE EVALUATION OF DISEASE ACTIVITY AND GLAND FUNCTION IN PRIMARY SJÖGREN'S SYNDROME

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Background: Saliva and tear flow rates and minor salivary gland biopsy are typically used to assess gland function and disease activity in primary Sjögren's syndrome (pSS); however, these have limitations. Imaging methods can directly visualize and generate quantitative values in individual glands. ¹⁸F-FDG-PET/CT (¹⁸F-FDG) measures glucose metabolism, a potential surrogate for inflammation; ¹¹C-methionine-PET/CT (¹¹C-met) is an amino acid PET tracer that assesses protein synthesis, a potential surrogate for gland synthetic function.

Objectives: Explore the potential of molecular imaging and multi-parametric MRI to characterize and quantify pSS disease manifestations.

Methods: In this pilot imaging study (203818), patients with pSS diagnosed per AECG criteria, with a EULAR Sjögren's syndrome disease activity index score ≥ 5 , and basal salivary flow >0.0 mL/min or stimulated salivary flow rate ≥ 0.05 mL/min, underwent ¹⁸F-FDG and ¹¹C-met and dynamic contrast-enhanced and diffusion-weighted MRI, followed by minor salivary gland biopsy for histological analysis. Age- and sex-matched healthy volunteers (HV) underwent MRI and ¹¹C-met. HV-pSS mean differences (m-diff; 95% confidence intervals [CI]) were calculated and Pearson's correlation coefficients (r) estimated. Peak PET standard uptake values (SUVpeak) were used in the correlations and SUVmax values were recorded. All methods were compared with routine clinical and laboratory tests.

Results: 12 patients had MRI, ¹⁸F-FDG and ¹¹C-met; while HV ($n=12$) had MRI ($n=12$) and ¹¹C-met ($n=8$). A lower ¹¹C-met SUVpeak was seen in the parotid (m-diff: 1.4 g/mL [0.4, 2.3]) and submandibular (m-diff: 2.0 g/mL [0.9, 3.2]) glands in pSS versus HV, as was a trend for lower lacrimal gland uptake (m-diff: 0.5 g/mL [-0.2, 1.3]) in patients with pSS. On structural MRI, the fat fraction (mean%) was higher in pSS vs HV in the submandibular glands (m-diff: -14.8 [CI: -29.3, -0.4]), with similar trends observed in the parotid glands (-11.2 [-24.3, 1.9]). There was a negative correlation between ¹¹C-met uptake and fat fraction (r : -0.7 [-0.9, -0.4]) in the combined parotid glands. There was positive correlation between ¹¹C-met uptake and stimulated salivary flow (r : 0.5 [0.03, 0.8]) and negative correlation for stimulated salivary flow and fat fraction (r : -0.5 [-0.8, -0.1]) in the parotid glands; similar correlations were also seen in the submandibular glands. There was negative correlation between the global lymphoid aggregation score on minor salivary gland biopsy and the combined salivary gland fat fraction (r : -0.7 [-0.9, -0.2]). Parotid gland SUVmax ¹⁸F-FDG uptake was higher than historical control values (mean: 1.9 g/mL, [SD: 0.5]¹) in some patients (pSS mean SUVmax: 2.8 g/mL [SD: 0.8, range 1.7-4.6]), with positive correlation between ¹⁸F-FDG and ¹¹C-met uptake (r : 0.7 [0.2, 0.9]) in the combined salivary glands.

Conclusion: Imaging showed clear differences between pSS and HV and correlated with clinical endpoints. Low ¹¹C-met uptake and high fat fraction on MRI may indicate poor residual gland function, while high ¹⁸F-FDG and stable ¹¹C-met uptake may define a subpopulation that responds well to anti-inflammatory therapies.

REFERENCES

[1] Basu S, et al. Nucl Med Commun 2008; 29:367-73.

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AB0497

SERUM CALPROTECTIN IN SYSTEMIC LUPUS ERYTHEMATOSUS: IS IT A GOOD ACTIVITY BIOMARKER?

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Background: Clinical manifestations of systemic lupus erythematosus (SLE) and infections sometimes are difficult to distinguish. In clinical practice low complement and anti(ds)DNA levels are used to assess lupus activity but

its determination usually requires some days. Leukocyte count, CRP and ESR cannot discriminate SLE from infectious processes. Calprotectin could be a good biomarker to assess lupus activity since it is more specific than CRP and ESR and faster to analyse than anti(ds)DNA.

Objectives: Our aim is to determine serum calprotectin levels in patients with SLE, and its correlation with analytical and clinical manifestations, especially with disease activity.

Methods: A total of 148 patients were included. All patients included fulfilled the SLE criteria (SLICC 2012). A quantitative ELISA analysis was performed to assess levels of serum calprotectin (CALPRO AS, Norway). Other biomarkers of lupus disease activity were also assessed (levels of anti(ds)DNA, hypocomplementemia, ESR and CRP). Clinical variables and activity/damage index (SLEDAI/SLICC) were also evaluated. The study was approved by the Clinical Research Ethics Committee of the hospital and all patients signed an informed consent. The results were compared with a healthy control group of similar age and sex (n=20).

Results: 134 patients (92%) were women with a mean age of 46 ± 12 years and an average SLE evolution of 12 ± 7 years. Mean SLEDAI was 2 ± 2 (105 inactive [<3], 43 mild [$4-12$], 0 severe [>13]). Mean SLICC was 0.31 ± 0.70 . No significant differences were observed in serum calprotectin levels between patients with SLE and healthy controls (2.93 ± 2.35 vs 2.17 ± 1.49 $\mu\text{g/mL}$, $p=0.160$). Calprotectin was positively correlated with CRP ($r=0.447$, $p<0.001$) and leukocyte count ($r=0.462$, $p<0.001$). Additionally, patients with higher anti(ds)DNA levels ($>100\text{UI/mL}$) had higher calprotectin compared to patients with lower anti(ds)DNA (3.20 ± 2.63 vs 2.42 ± 1.57 $\mu\text{g/mL}$; $p=0.027$), however this pattern was not observed with hypocomplementemia. Contrary to what we expected, we did not observe significant differences on calprotectin levels depending on SLEDAI index classification (cutoff at 4 and 12). Moreover, no differences were observed on calprotectin levels between those patients with/without clinical manifestations such as serositis, arthritis or glomerulonephritis. Patients with antiphospholipid antibodies had higher calprotectin levels (3.75 ± 2.04 vs 2.77 ± 2.38 $\mu\text{g/mL}$; $p=0.045$).

Conclusion: Serum calprotectin levels were positively correlated with CRP levels and leukocyte count. Patients with higher anti(ds)DNA levels had higher calprotectin levels, however we did not observe significant differences depending on SLEDAI index or the presence of arthritis, serositis neither glomerulonephritis. Even that calprotectin determination is faster than anti(ds)DNA levels and could be helpful in assessing inflammatory activity. There is an interesting relation between antiphospholipid antibodies and calprotectin. This study should be continued in a larger sample of active SLE patients to assess its utility in clinical practice as a discriminating biomarker for flares and even infection

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AB0498 GYNECOLOGICAL SYMPTOMS AND SEXUALITY IN SJÖGREN'S SYNDROME

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Background: Patients with Sjogren's syndrome (SS) have symptoms such as vaginal dryness and dyspareunia.

Objectives: In this study we aimed to present of primary SS (pSS) and secondary SS (sSS) patient's gynecological symptoms and effects of the disease on sexuality.

Methods: 60 pSS, 42 sSS, 52 healthy controls (HC) were interviewed. It was asked questions about sexuality, SF-36, HAD scale, pSS and sSS patients were also administered HAQ and Modified Hiil questionnaire¹.

Results: The mean age of the patients was 52 ± 11 years in the pSS, 54 ± 11 years in the sSS and 46 ± 9 years in the HC. Although there was no significant difference in term of age in pSS and sSS groups, mean age was lower in HC group. There were no significant differences in SF-36 mental index score, SF-36 physical index score, HAD-Anxiety score and HAD-Depression score among 3 groups. 62% of patients in the pSS, 79% in the sSS and 33% in HC were in menopause. Vaginal and vulvar dryness were significantly higher in SS, especially in the pSS than HC. The proportion of sexually active women was lower in sSS group. Spontaneous genital pain and dyspareunia were found to be high in pSS and it was statistically significant. Decreased sexual desire was significantly higher in SS groups (Table1).

HAQ score was significantly lower in pSS group than sSS group. Dyspareunia, dysuria, vaginal dryness and fatigue were significantly higher in pSS (Table2). There was no significant difference between two groups in terms of the effect of vulvar, vaginal dryness, dyspareunia, decreased sexual desire, myalgia, arthralgia and fatigue on sexuality

In the pSS group, it was seen that disease had a negative effect on sexuality. There were no significant differences between the two groups when asked whether they enjoyed sexuality and the sexual problems create problems between their partners. In both groups, 97% of patients stated that they had not been questioned about their sexuality before. 80% of pSS patients and 88% of sSS patients stated that they did not talk about sexuality problems.

Conclusion: Gynecological and sexual problems are seen in SS patients. Menopause also contributes to this situation. Patients should be informed about these problems and directed to gynecologists when necessary, and enough time should be reserved as we do.

Table 1. Groups Data

N(%)	Primary SS (60)	Secondary SS (42)	Healthy Control (52)	p
Age	52±11	54±11	46±9	0.001
Menopausal state	37(62)	33(79)	17(32)	0.000
Menopause Age	47±5	48±4	45±4	0.722
Hormone replacement therapy	8(13)	3(7)	3(6)	0.334
Sexual activity	46(77)	25(60)	43(83)	0.033
Vaginal dryness	38(63)	18(43)	11(21)	0.000
Vulvar dryness	26(43)	17(41)	8(15)	0.004
Dyspareunia	34(57)	14(33)	16(31)	0.010
Spontaneous genital pain	17(28)	5(12)	5(10)	0.019
Reduced sexual desire	44(73)	34(81)	26(50)	0.003
SF-36 mental index	43.5±10	45±12	47±9	0.237
SF-36 physical index	43±11	43±10	45±9	0.537
HAD- Anxiety	7±4	7±5	7±4	0.879
HAD- Depression	5±4	5±5	5±4	0.824

Table 2. Brief Survey Results of Primary and Secondary Sjögren Patients

N(%)	Primary SS	Secondary SS	p
Vaginal dryness	38(63)	18(43)	0.041
Vulvar dryness	26(43)	17(41)	0.774
Dyspareunia	34(57)	14(33)	0.020
Spontaneous genital pain	17(28)	5(12)	0.047
Dysuria	13(22)	2(4.8)	0.018
Dysuria	44(73)	34(81)	0.372
At least one gynecological symptom	49(82)	34(81)	0.927
Arthralgia	33(55)	23(55)	0.981
Myalgia	38(63)	23(55)	0.385
Fatigue	48(80)	26(62)	0.044
At least 1 muscle-skeletal symptom	47(78)	27(64)	0.118
HAQ	0.19±0.33	0.45±0.82	0.013

REFERENCES

- [1] S. Maddali Bongi at all.Gynaecological Symptoms and Sexual Disability in Women with Primary Sjögren's Syndrome and Sicca Syndrome.Clinical and Experimental Rheumatology 2013; 31: 683-690

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AB0499 FINGERSTICK BLOOD TRANSCRIPTOMICS: A PATIENT-CENTRIC APPROACH TO ENABLE PRECISION MEDICINE?

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Background: Venous blood collection using PAXgene RNA blood stabilization (PAX) is a routine method to obtain blood for gene expression (GE) analysis requiring phlebotomy and cold chain transport. DxCollect[®] is a fingerstick blood micro collection device (MCD) that circumvents phlebotomy and is reported to stabilize blood RNA for up to 14 days at ambient temperature potentially enabling collected blood to be shipped by mail.

Objectives: We evaluated DxCollect[®] as an alternative to the conventional method to potentially improve convenience and cost effectiveness of blood transcriptomic analysis and allow high frequency transcriptomic assessment.

Methods: Heparinized blood samples were treated with interferon- α for 3h *in vitro* and transferred to 3 PAX and 3 MCD tubes. One PAX and