SAT0279 

FACTORS PREDICTIVE OF POSITIVE TEMPORAL ARTERY BIOPSY IN TWO AUSTRALIAN COHORTS

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Background: Temporal artery biopsy (TAB) is widely recognised as the diagnostic gold standard for GCA despite having a poor sensitivity due to the presence of ‘skip’ lesions. There is, however, a lack of consensus guiding TAB practice, particularly in relation to optimal length, need for bilateral specimens, and number of segments examined.

Objectives: To investigate the impact of factors such as total biopsied length, laterality, segment number, and referral centre on histopathological outcomes in an Australian setting.

Methods: Reports for all available biopsy specimens labelled ‘temporal artery’ were extracted from the pathology service records of two rheumatology referral centres with adjacent geographic catchments. Each histopathology report was manually reviewed to establish length of biopsied artery, laterality, and number of segments. There was a substantial difference between the two centres, which was incompletely accounted for once corrected for total biopsy length and calendar year of biopsy, suggesting either unmeasured differences in patient demographics or a difference in clinical practice. This change was preserved across analysis of different histopathological subtypes.

Results: TAB reports from a total of 577 patients were captured, with results available from the two centres from 1999-2019 and 2010-2019 respectively. The mean age in this group was 73, and 69% were female (Table 1). A bilateral TAB was performed in 29%, and the mean total biopsy length was 2.5cm. Of these patients, 122 had positive biopsies (21%), with intimal hyperplasia reported in 100 (17%), giant cells in 83 (14%), and adventitial findings in 68 (12%). Positive biopsy was weakly correlated with increased total length of biopsy in centimetres (OR 1.25 (1.06-1.47) (Figure 1) and increased age in years (OR 1.02 (1.00-1.05)) but not laterality or sex (Table 2). There was a substantial difference between the two centres, which was incompletely accounted for once corrected for total biopsy length and calendar year of biopsy, suggesting either unmeasured differences in patient demographics or a difference in clinical practice. This change was preserved across analysis of different histopathological subtypes.

Conclusion: Total biopsy length was weakly associated with a positive TAB result, but differences in results between referral centres independent of biopsy length suggest other selection factors may be important in determining TAB yield. Examination of differences in results between a greater number of referral centres would assist in determining the extent of this variability.

Disclosure of Interests: None declared

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Table 1. Patient characteristics by biopsy result.

<table>
<thead>
<tr>
<th>Result</th>
<th>n(%)</th>
<th>Mean (SD)</th>
<th>Median (IQR)</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative</td>
<td>455</td>
<td>72 (± 11)</td>
<td>75 (± 8.9)</td>
<td>73 (± 10)</td>
</tr>
<tr>
<td>Positive</td>
<td>122</td>
<td>145 (± 32)</td>
<td>140 (± 28)</td>
<td>139 (± 31)</td>
</tr>
<tr>
<td>Total</td>
<td>577</td>
<td>87 (± 19)</td>
<td>88 (± 17)</td>
<td>88 (± 17)</td>
</tr>
</tbody>
</table>

Table 2. Associations with positive TAB on multivariable logistic regression.

<table>
<thead>
<tr>
<th>Predictor</th>
<th>OR (95% CI)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total biopsy length (cm)</td>
<td>1.18 (1.10-1.27)</td>
<td>0.02</td>
</tr>
<tr>
<td>Age (years)</td>
<td>1.08 (1.07-1.08)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Sex</td>
<td>1.01 (0.99-1.04)</td>
<td>0.18</td>
</tr>
<tr>
<td>Laterality</td>
<td>1.12 (1.06-1.17)</td>
<td>0.05</td>
</tr>
<tr>
<td>Unilateral</td>
<td>1.12 (1.08-1.17)</td>
<td>0.07</td>
</tr>
<tr>
<td>Male</td>
<td>1.03 (1.00-1.06)</td>
<td>0.03</td>
</tr>
<tr>
<td>Centre 2 (vs. centre 1)</td>
<td>1.06 (1.00-1.12)</td>
<td>0.06</td>
</tr>
</tbody>
</table>

Figure 1. The effect of total biopsy length on result, stratified by laterality.

SAT0280 

IMPACT OF PLACENTAL FACTORS ON PREGNANCY AND FETAL OUTCOME IN SYSTEMIC SCLEROSIS

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Background: Systemic scleroderma (SSc) is a rare connective tissue disease with a risk of cardiac complications. Pregnant women with SSc present a significant challenge for clinicians. This is because of the potential for worse outcomes in both mother and child. The main objective of this study was to evaluate the impact of placental factors on pregnancy and fetal outcome in SSc.

Methods: A case-control study was conducted in 102 consecutive SSc women with a positive antinuclear antibody (ANA) test and a control group of 102 women with systemic lupus erythematosus (SLE). Pregnancy complications were defined as hypertension, pre-eclampsia, preeclampsia, and sepsis. The placental factors evaluated included placental weight, placental thickness, placental volume, and placental grading.

Results: The placental weight was significantly lower in the SSc group compared to the control group (0.29 ± 0.36 kg vs. 0.43 ± 0.36 kg, p < 0.001). Similarly, the placental thickness was also significantly lower in the SSc group (1.2 ± 0.6 cm vs. 1.8 ± 0.7 cm, p < 0.001). The placental volume was significantly lower in the SSc group (0.23 ± 0.35 ml vs. 0.43 ± 0.36 ml, p < 0.001). The placental grading was also significantly higher in the SSc group (3.2 ± 1.1 vs. 2.1 ± 0.8, p < 0.001).

Conclusion: Placental factors such as placental weight, thickness, and volume are significantly lower in SSc pregnancies compared to healthy pregnancies. This suggests a potential role for placental factors in the pathogenesis of pregnancy complications in SSc. Further studies are needed to determine the clinical significance of these findings.

Disclosure of Interests: None declared

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Syste}
Background: Systemic Sclerosis (SSc) is one of the rheumatic diseases burdened with obstetrical complications. An Italian multicenter study showed that women with SSc have a higher-than-normal risk of intrauterine growth restriction, preterm delivery, very-low birth weight babies and pregnancy should be discouraged in patients with severe organ damage. However, with a multidisciplinary management, patients with SSc can have successful outcomes. Little is known about the pathogenesis of obstetrical complications, as studies on placenta are case reports or description of a few cases.1,2

Objectives: The aim of this study was to analyze the placentalt alterations with a focus on the role of inflammation in the pathogenesis of obstetrical complications in SSc, including the study of the atypical chemokine receptor 2 (ACKR2), involved in immune modulation and known to be highly expressed in circulating leucocytes in SSc patients.3,4

Methods: Eight SSc pregnant patients were compared with 16 patients with other rheumatic diseases (ORD) and 16 healthy controls (HC), matched for gestational age. Clinical data were collected. Placentas biopsies were obtained for histopathological analysis and immunohistochemistry for CD3, CD20, CD11c, CD68 and ACKR2. Frozen placenta samples from 4 SSc, 8 ORD and 8 HC were analyzed by qPCR for ACKR2 gene expression and proteins were extracted for multiplex assay for cytokines, chemokines and growth factors involved in angiogenesis and inflammation. Statistical analysis was performed with parametric or non-parametric tests depending on samples distribution.

Results: The number of placental CD3 (p<0.05), CD68 (p<0.001) and CD11c+ (p<0.001) cells was significantly higher considering the group of patients affected by rheumatic diseases (SSc+ORD) compared to HC. The SSc group alone did not show significance due to the lower sample size. No differences were observed between the groups in terms of vascular alterations or fibrosis. The percentage of stained area for ACKR2 and the ACKR2 transcripts levels were comparable between groups. Hepatocyte growth factor (HGF), involved in angiogenesis, was significantly increased in the group of rheumatic diseases patients (SSc+ORD) compared to HC (p<0.05), while the chemokine CCL5 was significantly higher in SSc patients compared to patients affected by ORD (p<0.05) and to HC (p<0.01). CCL5 levels directly correlated with the number of all inflammatory cells considered and higher levels were associated to histological villitis (p<0.01).

Conclusion: The higher number of placental inflammatory cells and the alterations in the levels of HGF and especially CCL5 could play a role in the pathogenesis of the obstetrical complications in SSc. ACKR2 does not seem involved in the obstetrical complications of SSc.

References:

Disclosure of Interests: None declared
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SAT0282
ASSOCIATION BETWEEN A VARIANT OF THE SRPS5 SPlicing FACTOR GENE AND SYSTEMIC SCLEROSIS IN AN ITALIAN POPULATION

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Background: In systemic sclerosis (SSc), alternative splicing of the last exon (exon 8) of vascular endothelial growth factor (VEGF)-A pre-mRNA is a key element in the switch from proangiogenic to antiangiogenic VEGF-A isoforms. The mRNA-binding protein serine/arginine protein 55 (SRPS5, also known as SFRS5) is a key regulatory splicing factor that promotes distal splice-site selection in the exon 8 region of VEGF-A pre-mRNA and subsequent upregulation of the exon 8b-containing VEGFb isoform. VEGFb expression has been implicated in SSc-related angiogenesis impairment and peripheral vascular damage. Moreover, differential splicing of the VEGF-A gene has been shown to be critical for development of pulmonary fibrosis. Of note, previous studies reported the lack of sequence variations in the VEGF-A alternatively spliced region, while a single nucleotide polymorphism (SNP) in the SFRS5 gene (rs2235611) has been associated with susceptibility to disturbed ocular angiogenesis in proliferative diabetic retinopathy.

Objectives: This case-control pilot study examined the possible implication of SFRS5 rs2235611 SNP in the genetic predisposition to SSc susceptibility and clinical phenotype.

Methods: A total population of 872 white Italian individuals (414 SSc patients, 458 controls) was studied. All patients were classified as limited and diffuse cutaneous SSc (lcSSc and dcSSc, respectively) and were clinically evaluated for the presence of autoantibodies (anticientromere, anti-Sc70 antibodies), pulmonary fibrosis and digital ulcers. The SFRS5 rs2235611 SNP was genotyped by TaqMan Real-Time PCR.

Results: SFRS5 rs2235611 genotype distribution and allele frequency were similar in SSc and healthy controls, though a trend toward significance was observed for genotype distribution (p=0.07). The SFRS5 rs2235611 AA genotype significantly influenced the predisposition to SSc (OR 2.55, 95% CI 1.11 to 5.57,

Scope: GR; AH; CD; FG; CH; GW; GM; CI; ADG; FK; AB; CDG

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