PREDICTIVE VALUE OF FETAL UMBILICAL ARTERY DOPPLER IN PRETERM BIRTH IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: Pregnanacies in women with systemic lupus erythematosus (SLE) resulted in an increase of preterm birth. The predictive value of fetal umbilical artery Doppler examinations for adverse pregnancy outcomes has been reported, while not widely be assessed in SLE pregnant women.

Objectives: To examine the predictive value of the fetal umbilical artery Doppler on preterm birth in pregnant women with SLE.

Methods: A fetal Doppler ultrasound examination was performed on all fetuses during the third trimester (28–36 weeks of gestation). The Doppler flow parameters of umbilical arteries were recorded, including pulsatility index (PI), resistance index (RI), the peak value of umbilical arteries at end-systole (Vmax, also abbreviate as S) and the peak value of umbilical arteries at end-diastole (Vmin, also abbreviate as D). The value of S/D was automatically calculated. The clinical data from 160 live births of SLE patients were analysed retrospectively.

Results: The mean age of SLE patients at pregnancy was (29.7±3.7) years old (20–37). Totally, 52 patients (32.5%) were preterm births and 76 (47.5%) were fullterm births without any other adverse pregnancy outcomes. The rate of preterm birth before 36 weeks was 26.9% and the number changed to 73.1% for those preterm deliveries after 34 weeks. Iatrogenic preterm birth was the most common cause of preterm birth (30 cases), followed by spontaneous preterm birth (12 cases) and preterm premature rupture of membranes (10 cases). The pulsatility index (PI), resistance index (RI) as well as S/D value of SLE patients with pre-term delivery was higher than that of patients with full-term delivery (p<0.05). The area below the ROC curve for PI, RI and S/D was 0.6 (95%CI: 0.5–0.7), 0.7 (95%CI: 0.6–0.8) and 0.6 (95%CI: 0.5–0.7), respectively. PI with cut-off value of 1.0 indicated the highest risk of preterm birth, with specificity of 34.6% and sensitivity of 84.2%. Regarding 0.7 as the cut-off value for RI to predict preterm birth, the sensitivity was 50.0% and the specificity was 81.6%. The optimal cut-off value for S/D was 2.8, at which sensitivity (50.0%) and specificity (81.6%) had the best combination.

Conclusions: Pregnanacies in lupus still had an increased risk of preterm birth. Umbilical artery Doppler was a useful monitoring measure for preterm birth in lupus pregnancies.

Disclosure of Interest: None declared


CAN THE AUTOMATED NEUROPSYCHOLOGICAL ASSESSMENT METRICS (ANAM) PREDICT COGNITIVE IMPAIRMENT COMPARED TO A COMPREHENSIVE NEUROPSYCHOLOGICAL BATTERY IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS (SLE)?

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Background: The diagnosis of cognitive impairment (CI) is often delayed requiring use of a comprehensive battery (CB). The Automated Neuropsychological Assessment Metrics (ANAM) is a computerised tool that can be used to screen for CI.

Objectives: To determine the ability of ANAM (v4) GNS Battery to predict CI in patients with systemic lupus erythematosus (SLE).

Methods: SLE patients (n=98), aged 18–45 years, attending a single centre between July 2016–April 2017 were recruited. Participants were administered the ANAM and CB on the same day. ANAM throughput scores were used to provide an estimate of cognitive efficiency. Patient scores on the ANAM and CB were compared to a normative sample of age and gender-matched healthy controls. The CB evaluates the following major cognitive domains: manual motor speed and dexterity, simple attention and processing speed, visual-spatial construction, verbal fluency, learning and memory (visuospatial and memory), and executive functioning (untimed and timed). ANAM evaluates the following major cognitive domains: attention and processing speed, memory, visual-spatial processing, executive functioning, abstract language function and fine motor processing. CI was operationalized on the CB and ANAM as a z-score of –1.5 on ≥2 domains or a z-score ≤–2.0 on ≥1 domains, or either.

Results: ANAM was compared against the CB using different CI definitions. Descriptive analysis was used to determine prevalence, sensitivity (Sn), specificity (Sp), Positive Predictive Value (PPV) and Negative Predictive Value (NPV).

Conclusions: ANAM is a promising tool for the assessment of CI in SLE. Future studies are required to determine if the sensitivity of the ANAM can be improved against the current CB.

Disclosure of Interest: None declared

In the general population, RHTN is associated with a 47% increased risk of cardiovascular events. Patients with systemic lupus erythematosus (SLE) have increased cardiovascular risk; however, no research has addressed the incidence, prevalence, or risk factors associated with RHTN in patients with SLE.

Conclusions: Cumulative survival rates and causes of death for this cohort are comparable with other cohorts of LN. ESRD confers the higher risk for death; African or Caribbean ethnicities and not taking antimalarials predict shorter overall and renal survival among these patients.

REFERENCES:

Disclosure of Interest: None declared

Abstract SAT0420 – Figure 1. Cumulative Incidence of RHTN in SLE versus Control Cohort

Log rank test: p=0.000391

Conclusions: Patients with SLE have a higher risk of RHTN compared to frequency-matched controls. RHTN is an important comorbidity for clinicians to recognize in SLE, as it is associated with a 3.3-fold higher risk of mortality.

REFERENCES:

Acknowledgements: VUMC’s Synthetic Derivative supported by institutional funding and by the CTSA grant ULTR000445 from NCATS/NIH. CTSA awaULTR000445 from NCATS. The Rheumatology Research Foundation, Lupus Research Alliance and K-23 award from the NIAMS.

Disclosure of Interest: None declared

Abstract SAT0421 – Table 2. Final models for predictors of shorter survival.

Multivariable COX regression

<table>
<thead>
<tr>
<th>HR [95% CI]</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall survival</td>
<td>3.002 [1.461-6.171]</td>
</tr>
<tr>
<td>ESRD</td>
<td>2.942 [1.430-6.052]</td>
</tr>
<tr>
<td>Ethnicity (Afro-Caribbean)</td>
<td>2.656 [1.250-5.642]</td>
</tr>
<tr>
<td>Age at LN diagnosis</td>
<td>1.039 [1.012-1.067]</td>
</tr>
<tr>
<td>Renal survival</td>
<td>4.424 [1.542-12.695]</td>
</tr>
<tr>
<td>Histological class (III, IV or VI)</td>
<td>3.727 [1.691-8.218]</td>
</tr>
<tr>
<td>No antimalarials</td>
<td>2.482 [1.237-4.982]</td>
</tr>
</tbody>
</table>

HR: hazard ratio; ESRD: end-stage renal disease; LN: Lupus nephritis

Conclusions: Overall survival in SLE patients with RHTN is significantly worse compared to controls. Stratification by age, race, and sex reveals differences in survival outcomes. Further research is needed to investigate the mechanisms underlying these differences and to develop targeted interventions to improve outcomes in this high-risk population.

REFERENCES:

Acknowledgements: VUMC’s Synthetic Derivative supported by institutional funding and by the CTSA grant ULTR000445 from NCATS/NIH. CTSA awaULTR000445 from NCATS. The Rheumatology Research Foundation, Lupus Research Alliance and K-23 award from the NIAMS.

Disclosure of Interest: None declared

Abstract SAT0421 – Long-term Immunogenicity of a Quadrivalent Human Papillomavirus Vaccine in Patients with Systemic Lupus Erythematosus

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Objectives: To report the 5 year immunogenicity of a quadrivalent human papillomavirus (HPV) vaccine (GARDASIL®) in patients with systemic lupus erythematosus (SLE).

Methods: Female SLE patients and healthy controls, aged 18–35 years, who received GARDASIL in the year 2011 and sero-converted 12 months post-vaccination were followed for the persistence of immunogenicity at 5 years. Antibodies to HPV serotypes 6,11,16,18 were repeated at 5 years using an IgG immunoassay developed on a Luminex microsphere platform (total IgG LIA; Merck Research Laboratory). The rate of sero-reversion was compared between patients with and without SLE.