

and vasculitis disease activity over the observation period ( $p \leq 0.001$  for all).

**Conclusions** Patients who ever experience HDAS represent a distinct clinical cohort with worse longitudinal disease outcomes.

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#### PERFORMANCE OF SPECIFIC (SLE-QOL) AND GENERIC (SF-36) HEALTH RELATED QUALITY OF LIFE QUESTIONNAIRES IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS – A LONGITUDINAL STUDY

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**Background and aims** To compare specific health-related quality of life (HR-QoL) questionnaire (SLE-QoL) with a generic HRQoL questionnaire (SF-36) and to examine their sensitivity to changes defined by the global rating for change (GRC).

**Methods** Patients attending a single-centre lupus clinic in Thailand completed both validated SLE-QoL and SF-36 questionnaires, and rated their global change in QoL compared to previous visit using a 7-point Likert scale (GRC). Patients were grouped into either 'no change' (control group), 'deterioration' or 'improvement' categories (GRC status). Physician global assessment (PGA, 0–3) scores were collected for clinician-assessed disease activity. Associations between GRC status and SLE-QoL/SF-36 scores were examined using generalised estimating equations. Cohen's *d* effect sizes were estimated to compare mean changes in SLE-QoL and SF-36 scores.

**Results** The analysis included 248 patients with 1265 visits. Patients reported improvement in ~59%, deterioration in ~16% and no change in QoL in ~25% of visits. PGA demonstrated statistically significant ( $p < 0.01$ ), negative correlations with GRC ( $r = -0.49$ ), SLE-QoL ( $r = -0.49$ ), SF-36PCS ( $r = -0.50$ ) and SF-36MCS ( $r = -0.36$ ) scores. In contrast, SLE-QoL scores correlated positively and significantly ( $p < 0.01$ ) with SF-36PCS ( $r = 0.56$ ) and SF-36MCS ( $r = 0.60$ ) scores. Compared to control group, mean scores of SF-36PCS, SF-36MCS and SLE-QoL surveys were significantly lower in the deterioration group (mean change  $-4.96, -3.21$ , and  $-6.51$ , respectively,  $p < 0.01$ ) but SF-36PCS and SLE-QoL were significantly higher in the improvement group (mean change  $1.22$  and  $1.35$  respectively,  $p < 0.01$ ). Cohen's *d* effect sizes were similar for both questionnaires.

**Conclusions** Both SLE-QoL and SF-36 demonstrated similar, strong associations with GRC-based deterioration or improvement.

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#### PROMOTES [PATIENT AND PHYSICIAN REPORTED OUTCOMES – MEASURES OF THE TRUE EXPERIENCE IN SLE]

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**Background and aims** Patients with systemic lupus erythematosus (SLE) assess their disease activity differently to physicians. Prominent physician indices used to assess SLE disease activity include Systemic Lupus Erythematosus Disease Activity Index (SLEDAI) and British Isles Lupus Assessment Group (BILAG) index. We evaluated whether multidimensional health assessment questionnaire (MDHAQ), an extensively used patient reported measure, may be useful in assessing disease activity in SLE.

**Methods** Seventy-two consecutive patients with SLE were studied in the usual care of three rheumatologists. All patients completed an MDHAQ and the rheumatologist completed a physician global, SLEDAI and BILAG for each outpatient visit. Patients were classified as likely fibromyalgia if they scored pain  $\geq 6/10$  and range of symptoms  $\geq 16/60$ . Scores and indices were compared using correlation and t-test.

**Results** Patients included 65 women and 7 men, with a total of 203 outpatient visits. In all patients, there were no correlations between patient reported outcomes and SLEDAI or BILAG. In patients without fibromyalgia, mean RAPID3, pain and patient global (PATGL) scores were significantly higher in patients with a severe BILAG class. However, none of these scores were significantly different between mild and moderate BILAG class. PATGL modestly correlated with physician global, and was usually higher than physician global.

**Conclusions** MDHAQ can alert the physician about the patient perception of disease activity, which is different to the physician's perspective, and is not part of the accepted SLEDAI/BILAG assessment. These preliminary results support further study to evaluate the clinical utility of MDHAQ as a measure of SLE disease activity.

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#### PREDICTORS OF GOOD LONG-TERM RENAL OUTCOMES

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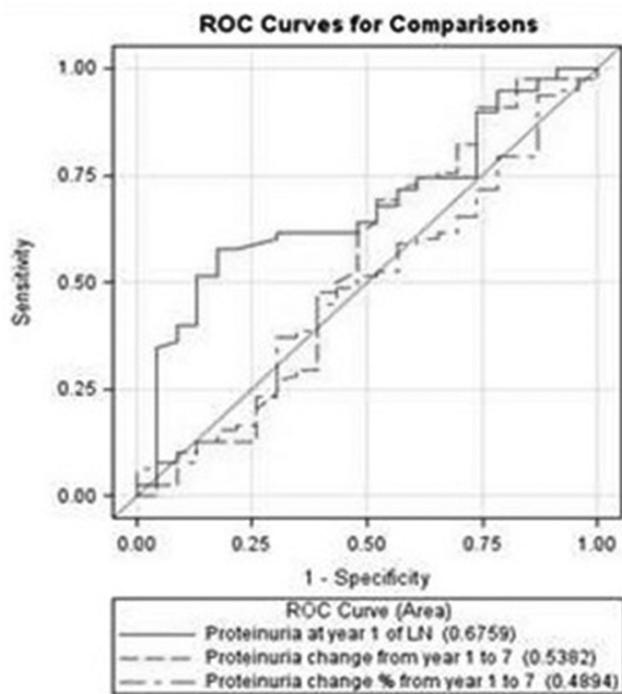
**Background and aims** To determine: 1-the predictive ability of proteinuria, urinary sediment (uRBCs) and serum creatinine (Cr) at 1 year to predict good long-term outcomes, and 2- the best proteinuria cut-off at 1 year to predict good long-term outcomes.

**Methods** Retrospective analysis on 1849 patients. Patients with lupus nephritis (LN) (24 hour proteinuria [24H-P]  $> 0.5$  g/d) with at least 7 years' follow-up were identified and baseline was defined as the onset of LN. Good renal outcome was defined as Cr  $< 100$  mmol/L and renal transplant/dialysis-free at 7 years.

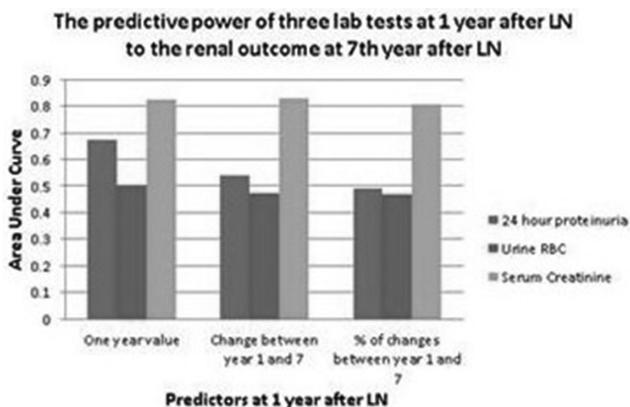
ROC curves examined the predictive power of Cr, 24H-P, and uRBCs at 1 year post-LN diagnosis with respect to good renal outcome. AUC were analysed for: a) 24H-P at year 1, b) absolute change in 24H-P between year 1 and 7, and c) percent change in 24H-P between year 1 and 7. The proteinuria cutoff was identified by optimising sensitivity/specificity.

**Results** 101 LN patients were analysed with baseline 24H-P of  $2.36 \pm 2.31$  g/d. 24H-P of 0.6 g/d at 1 year after LN diagnosis best predicted good long-term renal outcome, with sensitivity 62%/specificity 70% (Figure 1).

AUC analysis confirmed that 24H-P at 1 year, but not absolute/percent change, is a predictor of good long-term renal outcomes (Figures 1 and 2). uRBCs did not provide any



**Abstract 445 Figure 1** ROC curve of proteinuria at 1 year, absolute change and percentage of change between year 1 and 7.



**Abstract 445 Figure 2**

predictive benefit while Cr at 1 year predicted long-term renal outcome with an AUC of 0.82 (Figure 2).

**Conclusions** Proteinuria of 0.6 g/d at 1 year and Cr at 1 year post-LN diagnosis best predicted good long-term renal outcome. uRBCs did not offer any prognostic benefit.

**446 RELATION OF VITAMIN D LEVELS IN SLE NUMBER OF SEVERE FLARES**

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**Background and aims** The aim of this study was to evaluate retrospective data of Vitamin D levels in SLE patients, at the beginning of the disease and mean values during 10-years follow-up, and correlate them with severe flares frequency.

**Methods** We selected, from a cohort of 675 SLE patients, 112 patients who had baseline Vitamin D levels at SLE diagnosis and 68 patients with at least three evaluations of Vitamin D levels during the last 10-years follow-up. The number of severe flares (defined by the SELENA-SLEDAI flare composite index) was required for all patients. We correlated the baseline Vitamin D levels with severe flare number and with patients with three or more and less than three severe flares. We also correlated severe flares with mean Vitamin D value in the last 10-years follow-up.

**Results** We observed a higher number of flares in patients with low disease baseline Vitamin D levels ( $p=0.045$ ). We also observed that patients with three or more flares have significant lower baseline Vitamin D levels ( $p=0.004$ ). The mean Vitamin D levels in the previous 10-years of disease, were lower in patients with more severe flares, although not significant ( $p=0.178$ ). However, if we divide them in two subgroups (patients with three or more and less than three severe flares), the difference is significant ( $p=0.044$ ).

**Conclusions** Vitamin D levels at the beginning of the disease and the vitamin D burden during disease are related to the number of severe flares and so resulting in more aggressive phenotypes.

**447 IMPROVING THE QUALITY OF CARE IN SYSTEMIC LUPUS ERYTHEMATOSUS (SLE) THROUGH TIME-STRUCTURED, INFORMATION TECHNOLOGY-ENHANCED, QUALITY IMPROVEMENT INDICATOR-DRIVEN PATIENT MANAGEMENT**

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**Background and aims** Gaps exist in SLE patient care at Ochsner Health System (Ochsner) related to both A) monitoring and management of comorbidities and treatment-related toxicities and, B) monitoring and management of disease activity. The uncovered gaps suggested a lack of well-defined systems of care in SLE within Ochsner that lead to a “looser” overall management of SLE patients than is optimal. Our hypothesis was that a more time-structured, IT-enhanced, and QI indicator-driven approach to SLE patient management would translate into a more frequent, more comprehensive, and guideline-adherent interaction with the patient (i.e. “tighter” management). This “tighter” management, we hypothesised, would manifest as improved patient outcomes.

**Methods** In order to prompt “tighter” management, we implemented the following interventional modalities:

- Lupus Management Module: An SLE-specific management dashboard programmatically embedded into the Epic EHR system in use at Ochsner. The dashboard incorporates SLE-management-specific reminders, alerts, historical test result tracking, and customised assessment (SLEDAI, SLICC) programming.