investigate the left ventricular diastolic function and the factors related in SLE patients compared with healthy controls.

**Methods** Thirty consecutive female SLE patients without evidence of cardiac disease were underwent standard transthoracic echocardiography, and were compared with 30 age-matched healthy female controls. Patient characteristics, organ damage and laboratory data were retrieved by medical chart review.

**Results** In SLE patients, indexes of LV diastolic function differed from control group, with reduced early diastolic filling velocity (E), as well as prolongation of the time taken from the maximum E point to baseline, reduced ratio of early to late diastolic flow velocity (E/A), prolonged ratio of E to early diastolic mitral annular velocity (E′) (E/E′). However, the differences did not show statistical significance. Anti-Ro antibody positivity was observed in 43% of SLE patients, and it was correlated with higher E/A ratio significantly (1.3±0.4 vs 1.0 ±0.2, p=0.03). In addition, the SLE patients with hematologic or renal involvement showed more enlarged size of left atrium significantly compared to the patients without any involvement (36±4.3 vs 31±9.2, p=0.01).

**Conclusions** Although not statistically significant, there was a trend which suggested that patients with SLE have subclinical impaired diastolic function compared with the healthy control. Presence of anti-Ro antibody and systemic organ involvement was related with the diastolic dysfunction markers.

**Conclusion** Our data demonstrated a role of EDA+ FN in the pathogenesis of tubulo-interstitial disease in lupus nephritis.

**209 Joint Deposited IgG Induces Arthritis but Inhibits Osteoclastogenesis in SLE Through Syk**

GM Deng, W Qiao, H Ding, H Liu, X Guo. Nanjing Medical University, Key Laboratory of Antibody Techniques of Ministry of Health, Nanjing, China

10.1136/lupus-2017-000215.209

**Background and aims** Although arthritis is frequent in patients with systemic lupus erythematosus (SLE), its pathogenesis remains unclear. The aim in our study is to investigate the pathogenesis of arthritis in SLE.

**Methods** We analysed the feature of SLE patients with arthritis and lupus-prone mice with arthritis, investigated the role of joint deposited IgG in the development of lupus arthritis.

**Results** Arthritis lacking bone erosion is common symptom in most of SLE patients and spontaneously develops in lupus prone mice. Large amount of IgG deposited in joint of lupus prone mice. Similar arthritis to lupus prone mice was induced by intraarticular injection of lupus IgG and was dependent on the dose of lupus IgG. Joint deposited IgG, monocytes/macrophages and TNFα were required in the development of lupus arthritis. Joint deposited lupus IgG inhibited RANKL-induced osteoclastogenesis in dose and time dependent manner. Lacking ITAM containing FcγRIII reduced inhibitory effect of lupus IgG on osteoclastogenesis. Lupus IgG quickly stimulated Syk activation than RANKL through lipid rafts. Lupus IgG-induced Syk activation is related to dsDNA Ab. Blocking of Syk significantly inhibited arthritis induced by lupus IgG and arthritis in lupus prone mice, suppressed Syk activation induced by lupus IgG and osteoclastogenesis induced by RANKL.

**Conclusions** The joint deposited IgG exerts an important role in the development of lupus arthritis lacking of bone destruction, Syk plays a crucial role in lupus IgG-induced arthritis and inhibited osteoclastogenesis. This finding will promote development of effective therapeutic strategy to arthritis in SLE patients.

**210 Oestrogen Promotes SLE Serum IgG-Induced Skin Inflammation Via the Oestrogen Membrane Receptor GPER1**

Z Cai, GM Deng. Nanjing Medical University, Key Laboratory of Antibody Techniques of Ministry of Health, Nanjing, China

10.1136/lupus-2017-000215.210

**Background and aims** Skin injury is the second most common clinical manifestation in patients with systemic lupus erythematosus (SLE). Oestrogen may affect the onset and development of SLE. This study was undertaken to elucidate the role of oestrogen in the development of SLE skin injury.

**Methods** We investigated the role of oestrogen and its membrane receptor GPER1 in SLE-related skin injury in mice treated with SLE serum in vivo, and monocytes from mouse spleen in vitro.

**Results** We found that skin injury induced by SLE serum was more severe in female mice and required monocytes. E2