Methods: We retrospectively analyzed prospectively collected data of patients with LN followed up in four Italian referral centres for systemic lupus erythematosus. Serological and clinical information were retrieved according to a shared database. RB were classified according to ISN/RPS 2003 classification; chronicity (CI) and activity indexes (AI) were defined according to Austin et al. The primary renal outcome was renal failure, defined as serum creatinine (SCr) >1.0mg/dL with eGFR<60ml/min. Non-parametric tests were used for statistics. Patients repeating RB due to renal remission were excluded from the analysis.

Results: Four-hundred and thirty-eight patients were recruited. One-hundred and three patients repeated RB after 6.1±4.7 (means SD) years from the first due to: protocol biopsy due to renal remission (Group 1, n=8); proteinuretic flare (Group 2, n=51); worsened renal function (Group 3, n=26); partial renal response (Group 4 n=18). Patients undergoing a second RB were younger (p<0.001), had lower serum C3 at LN diagnosis (p<0.001) and displayed more frequently class IV and higher AI at first RB (p=0.0038 and p=0.043, respectively). At the end of follow-up, patients who repeated RB had more frequently renal failure (p=0.003).

At the second RB, the histological class was unchanged in 55% of patients. CI increased at second RB compared to the first (3.6±2.4 vs. 1.7±1.7; p<0.001). Overall, 26 out of 103 patients (25%) developed renal failure: 0 from group 1, 10 from group 2, 14 from group 3, 2 from group 4 (p<0.001). Uncontrolled hypertension at LN diagnosis, increased SCR and increased proteinuria in second RB predicted renal failure (Table 1).

Conclusion: Patients undergoing a repeated RB had more aggressive clinical and histological features already at first RB and developed renal failure more frequently. Among baseline features, uncontrolled hypertension had the strongest association with renal failure, thus suggesting that control of blood pressure since early stages is highly advisable.

References: