Result supplementary text

Out of 462 patients, 169 were excluded from the study. Reasons for exclusion were: non-Caucasian ethnicity (15, 3.2%); SLE diagnosis before 1990 (72, 15.6%); remission lasting more than 12 months at study entry (37, 8.0%); less than 3 visits per year during the follow-up (18, 3.8%); incomplete data records (12, 2.6%); lost-to-follow-up (15, 3.2%).

We observed two patients with lupus interstitial pneumonia and one with alveolar haemorrhage. No cases of gastrointestinal and ophthalmic involvement or myelitis were found.

During the follow-up we observed one death in a female patient who died due to acute respiratory failure after alveolar hemorrhage in September 2015. This patient had been in remission on-corticosteroids in the previous 4 years.

SDI increased less frequently during the follow-up in patients in remission for 2, 3 ,4, or ≥5 years compared with unremitted patients ($p=0.018$, $p<0.001$, $p<0.001$, $p<0.001$, respectively), whereas the proportion of 1-year remitted patients who accrued damage was similar to that of unremitted patients.

Among patients achieving a given duration of remission, the proportion of patients who accrued damage was similar irrespectively of the level of remission achieved, except for remission lasting ≥5 years, where patients off-corticosteroids accrued less frequently damage than patients on-corticosteroids (17/77, 22% vs 18/36, 50%, $p<0.001$).

Interestingly, treatment was similar in unremitted and 1-year remitted patients. The proportion of patients who took a cumulative prednisone dose ≥180 mg/month was lower in patients in remission for at least 2-years compared with unremitted patients ($p=0.02$). Notably, the use of hydroxycloroquine was similar among different groups. Although antimalarials were shown to be associated with less damage in some studies, they were not in our study, probably due to the high percentage of patients treated with these drugs (90.8% of the study cohort).

Biological drugs including rituximab and belimumab were used in 13.6% of patients in our cohort. Twenty-two patients (7.5%) were treated with rituximab; among them, 22.9% did not achieve a

sustained remission. Notably, rituximab is used “on-demand” in SLE patients with refractory active disease. Since SLE flares can occur 9-12 months after rituximab therapy,[S1-S$] the “on demand” use could explain the short duration of remission observed in some rituximab-treated patients.

Belimumab was reimbursed in Italy since May 2013 and our cohort includes patients treated with this drug for a median period of time of 20 months (range 5-30). Thus, the short duration of follow-up after belimumab initiation might account for the low rate of prolonged remission (>3 years) observed in belimumab-treated patients.

Supplementary References

S1 Smith KG, Jones RB, Burns SM, et al. Long-term comparison of rituximab treatment for refractory systemic lupus erythematosus and vasculitis: Remission, relapse, and re-treatment. Arthritis Rheum 2006;54(9):2970-82.

S2 Reynolds JA, Toescu V, Yee CS, et al. Effects of rituximab on resistant SLE disease including lung involvement. Lupus 2009;18(1):67-73.

S3 Dias SS, Rodriguez-Garcia V, Nguyen H, et al. Longer duration of B cell depletion is associated with better outcome. Rheumatology (Oxford) 2015;54(10):1876-81.

S4 Iaccarino L, Bartoloni E, Carli L, et al. Efficacy and safety of off-label use of rituximab in refractory lupus: data from the Italian Multicentre Registry. Clin Exp Rheumatol 2015;33(4):449-56.