Microparticles (MPs) (small membrane vesicles) have been reported in SLE patients, being an important source of auto-antigens and inflammatory mediators. Based on these considerations, our study aims to measure the serum levels of sST2 in SLE patients, examining their association with disease activity and steroid consumption. Additionally, we aim to propose that MPs are an important source of ST2.

Methods Forty-six SLE patients were evaluated for disease activity (determined by SLEDAI), sST2 were measured by sandwich ELISA in serum samples and compared with 10 age- and sex-matched healthy controls (HCs). MPs were isolated from plasma from 9 SLE patients and 9 HCs, and we evaluated the ST2 content in these vesicles by western blot.

Results Serum sST2 level was significantly higher in active SLE patients compared with HCs (p<0.001), and in inactive patients compared with HCs (P<0.01). We demonstrated higher sST2 levels among SLE patients on steroid treatment, with MPs from SLE patients containing ST2.

Conclusions We found elevated serum sST2 level in SLE patients, being higher in active patients; therefore ST2 could be an activity SLE biomarker. Additionally, MPs from SLE patients contain ST2, thus MPs could be an important source of circulating ST2, transporting and transferring ST2 to different cells for intercellular communication, consequently contributing to SLE pathogenesis.

Financial support Funding FONDECYT 1170648 and Programa de Sostenibilidad Universidad de Antioquia.

Conclusion C1Q Ab has a known correlation with LN, however, its ability to predict flares has been less well characterized. Our prospective analysis shows that although the C1Q Ab positive patients were more likely to have a flare of LN in the following year, there was not a statistically significant difference between the C1Q Ab positive and negative groups. In addition, only a relatively small proportion of C1Q Ab positive patients went on to have a flare (20%). Our data therefore does not support the use of C1Q Ab in predicting a flare of LN.