Health status and concomitant prescription of immunosuppressants are risk factors for hydroxychloroquine non-adherence in SLE patients with prolonged inactive disease

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Medicine, Surgery and Dentistry Systemic lupus erythematosus (SLE) is an autoimmune systemic disease involving almost every organ/system, still burdened by an impaired quality of life and a higher mortality rate than general population (Carter EE et al., 2016). Hydroxychloroquine (HCQ) represents a milestone in the treatment of SLE patients and to date its intake is recommended lifetime because of its known capacity to prevent flares, thromboembolic events, to improve lipid and glucidic metabolism, and to reduce damage accrual over time (Costedoat-Chalumeau N et al., 2014).

Low blood HCQ concentration is associated to a higher SLE disease activity, and independently predicts SLE flares within a 6-month period (Costedoat-Chalumeau N et al., 2006). Therefore, HCQ dosage in whole blood might help identifying patients at risk deserving a stricter follow-up.

Despite the increasing interest in the topic, the widespread lack of adherence to HCQ treatment and the relationship with disease progression have not been yet sufficiently investigated in SLE patients with prolonged inactive disease. The primary objective of this work has been to investigate the extent of and the factors associated with HCQ adherence in SLE patients with prolonged inactive disease attending a routine clinical evaluation. The second objective of this work has been to evaluate the presence of a possible correlation between the Quality of Life (QoL) main domains and blood HCQ concentration.

To realize this study, we enrolled SLE patients, in remission for at least 1 year and taking a stable dose of HCQ during the previous 6 months. To measure whole blood concentration of [HCQ] and one of its main metabolite, desethylchloroquine [DCQ], a blood venous sample was taken at enrollment (T0) and 6 months after the beginning of the study (T6). Moreover, at T0 each patient completed the Short-Form-36 (SF-36), the Health Assessment Questionnaire Disability Index (HAQ-DI), the Hospital Anxiety And Depression Scale, the visual analogue scales for fatigue-pain-general health (GH), and the self-assessment of disease activity. Eighty-three patients, with a mean±SD age of 41.2±11.1 years and a median (range) [HCQ] of 326.87 (0-4002.7) ng/ml were enrolled. At T0, 28.9% of patients were defined as non-adherent ([HCQ]<100 ng/ml); interestingly, these patients reported better physical quality of life, lower pain, and a better self-assessed disease activity compared with good-adherers ($p<0.05$). Multivariate analysis revealed an independent association between non-adherence and two factors: the physical summary of SF-36 (OR=1.05; $p=0.038$) and the concomitant use of immunosuppressants (OR=4.35; $p=0.010$). A significant increase of HCQ adherence rate was however observed at T6 ($p<0.05$) in all patients, independently from their initial value of blood [HCQ]. Among others, this study suggests that health status and the concomitant prescription of immunosuppressants represent main risk factors for HCQ non-adherence in SLE patients in remission. Therefore, monitoring HCQ levels

might represent an important opportunity to improve adherence and to avoid negative outcomes of this disease such as the occurrence of flares.

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Costedoat-Chalumeau N et al. (2014). Presse Med. 43:e167-80.

Costedoat-Chalumeau N et al (2006). Arthritis Rheum. 54:3284-90.