**COMPARISON OF EFFECTS OF DORIS REMISSION AND VISCERAL PSEUDO-OBSTRUCTION (VPO): A NEW TERMINOLOGY OF SYSTEMIC LUPUS ERYTHEMATOSUS GASTROINTESTINAL INVOLVEMENT AND A CT SCORING SYSTEM**

Zhiwei Chen, Jiaoyu Li, Xiaodong Wang, Ting Li, Shuang Ye*. South Campus, Ren Ji Hospital, School of Medicine, Shanghai Jiaotong University

10.1136/lupus-2019-lsm.28

**Background** To identify the relevant parameters for SLE-VPO evaluation on computed tomography (CT), and try to develop a CT image based evaluation system for SLE-VPO.

**Abstracts**

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**Background** Systemic lupus erythematosus (SLE) is a systemic autoimmune disease characterized by tissue-binding autoantibodies and immune complexes. Tacrolimus, also known as FK506, is an immunosuppressant that has been used for the treatment of lupus as well as for the prevention of graft rejection after organ transplantation. It achieves immunosuppressive activity by inhibiting IL-2, a molecule that promotes the development and proliferation of T cells. However, tacrolimus induces T cell imbalance because IL-2 is also known to promote Treg cells and inhibit proinflammatory Th17 cells. Recently, there have been reports showing that SLE is associated with gut microbiota. Lactobacillus acidophilus, one of the typical intestinal bacteria, is reported to have therapeutic efficacy through T cell regulation in immune-mediated inflammatory diseases including SLE.

**Methods** The present study was undertaken to investigate whether combination therapy of Lactobacillus acidophilus and tacrolimus improve the therapeutic efficacy and T cell imbalance in animal model of SLE (MRL/lpr mice). The 8-week-old MRL/lpr mice were orally administered with 5 mg/kg tacrolimus and/or 50 mg/kg Lactobacillus acidophilus daily.

**Results** The results showed that spleen size was markedly decreased in tacrolimus and Lactobacillus acidophilus combination group compared with tacrolimus alone group, and that DNT cells, which is a pathogenic immune cell subset, of MRL/lpr mouse, were profoundly decreased in peripheral blood (PB) and spleens of mice treated with combination therapy. In addition, serum levels of ds-DNA and IgG2a were decreased, and renal pathology score was markedly alleviated by combination treatment. In vitro experiments using spleen cells from MRL/lpr mice revealed that treatment with Lactobacillus acidophilus and tacrolimus induce Treg cells and decreased Th17 cells.

**Conclusions** In conclusion, we demonstrated that addition of Lactobacillus acidophilus can augment the therapeutic effect of tacrolimus while improving the T cell imbalance in SLE.

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