OP-30
ODN2088 attenuates paraquat-induced acute lung injury

Shen Haitao, Zhao Min
Department of Emergency Medicine, Shengjing Hospital of China Medical University, 36 Sanhao Street, Shenyang, 110004, People's Republic of China.

Objectives: This study aimed to investigate the role of Toll-like receptor 9 Inhibitor ODN2088 in paraquat-induced acute lung injury (ALI).

Methods: For the in vivo study, C57BL mice were randomly assigned to the vehicle control group, paraquat group, paraquat + TLR9 antagonist (ODN2088) group, and TLR9 antagonist (ODN2088) group (n=36 per group). After Paraquat 30 mg/kg was administered ip and at 2, 24 and 48 h, serum samples and lung tissues were collected to evaluate ALI and TLR9 signalling by lung injury score, protein levels of TLR9, MyD88, p-IRAK4, p-p65, and serum TNF-α and IL-1β levels.

Results: The lung injury score, TLR9, MyD88, p-IRAK4 and p-p65 protein levels, and cytokines TNF-α and IL-1β levels were significantly higher in the paraquat group than that in the control group; TLR9 blocker ODN2088 pretreatment attenuated lung injury, inhibited MyD88 and NF-κB activation, and reduced TNF-α and IL-1β in serum.

Conclusion: TLR9 mediates paraquat-induced ALI, and antagonizing TLR9 may attenuate paraquat -induced ALI.