S17 - Treatment of Severe Influenza A Infection with Celecoxib: A Double Blind Randomized Controlled Trial

Ivan HUNG Fan-ngai[1], Kelvin TO Kai-wang[2], YUEN Kwok-yung[2]
[1]*Department of Medicine, Queen Mary Hospital, The University of Hong Kong, Hong Kong*
[2]*Department of Microbiology, Queen Mary Hospital, The University of Hong Kong, Hong Kong*

Background: Influenza A(H3N2) caused excessive hospitalizations and deaths. We assessed the efficacy and safety of celecoxib and oseltamivir combination for treatment of severe influenza requiring hospitalization.

Materials/Methods: We conducted a prospective double-blind randomised controlled trial among adult patients hospitalized between December 2014 and March 2017, for virologically-confirmed influenza A(H3N2) infection. Patients were randomly assigned to either a combination of oseltamivir 75mg twice daily and celecoxib 200mg daily for 5 days, or oseltamivir 75mg twice daily and placebo capsule for 5 days as control (1:1). The primary end-point was 28-day mortality. The secondary end-point was serial changes in post-treatment nasopharyngeal aspirate viral load, National Early Warning Score (NEWS), cytokine IL-6 and IL-10, and the length of hospitalization (NCT02108366).

Results: Between December 2014 and March 2017, we enrolled 120 influenza A(H3N2) patients. Of these, 60 (50%) were randomly assigned to the celecoxib-oseltamivir group. There was no difference in baseline findings between the two groups. Adverse events were uncommon. Twenty-three patients succumbed during the 28-day follow-up. The celecoxib-oseltamivir group had significantly lower 28-day mortality ($p=0.037$) than the control. Despite no difference in the serial viral titre, the serial IL-6 and IL-10 were significantly lower in the celecoxib-oseltamivir group than the control-group from day 1 to 5 post-treatment ($p<0.05$) and the serial NEWS from day 1 to 3 ($p<0.01$) post-treatment.

Conclusions: The combination of celecoxib-oseltamivir reduced mortality, serial NEWS and cytokine in hospitalized influenza A(H3N2) patients without increased adverse effects.

Project Number: RRG-18