A RANDOMISED CONTROLLED TRIAL TO COMPARE IMMUNOGENICITY BETWEEN INTRAMUSCULAR AND INTRADERMAL TRIVALENT INFLUENZA VACCINATION IN NURSING HOME OLDER ADULTS

TC Chan, IFN Hung, KH Chan, PY Li, PTW Li, JKH Luk, LW Chu, FHW Chan

Department of Medicine, Queen Mary Hospital and Fung Yiu King Hospital, Hong Kong

BACKGROUND: Immunosenescence in older adults contributes to unsatisfactory immunogenicity towards influenza vaccine. Intradermal (ID) administration of influenza vaccine has been suggested to improve immunogenicity but there is no study regarding the immunogenicity of ID influenza vaccination in nursing home older adults.

METHODS: This was a single-centre, randomised, controlled, open-label, parallel group trial from October 2013 to April 2014 in nine nursing homes comparing the immunogenicity and safety between full-dose intramuscular (IM) and ID immunisation of the trivalent influenza vaccine. Day-21 and day-180 immunogenicity of ID compared to IM vaccination was analysed.

RESULTS: Overall, 100 nursing home older adults (mean age, 82.9 ± 7.4 years; male, 36%) were randomised. Baseline characteristics were similar between the two groups. At day 21, non-inferiority in immunogenicity of the ID vaccination was demonstrated. The seroconversion rate of the H1N1 strain was significantly higher in the ID group. At day 180, immunogenicity of both groups fell but the geometric mean titre (GMT) of all strains in the ID group was higher and the difference was significant for H3N2 strain. The seroconversion rate and GMT fold increase of H3N2 strain was significantly higher in the ID group.

CONCLUSION: ID vaccination of influenza vaccine is non-inferior to IM vaccination in immunogenicity in nursing home older adults. Furthermore, ID vaccination is superior in some components of the immunogenicity assessment.