

Infectious disease risk from anti-psychotic drug use: A population-based study

Usman Iqbal, Pharm-D, MBA^{1, a} and Yu-Chuan (Jack) Li, M.D, Ph.D^{2, a, b}

^a College of Medicine Science and Technology (CoMST),
Taipei Medical University

^b Chair, Dept. of Dermatology, Wan Fang Hospital, Taipei, Taiwan
Tel: +886-2-6636-2530 Ext. 7608
Fax: +886-2-6638-7537

Address: 250-Wuxing Street, Xinyi District, Taipei 11031, Taiwan
E-mail: usman.iqbal185@gmail.com, jaak88@gmail.com

Abstract.

Background & Objective: Some drugs like benzodiazepines have been associated with an increased incidence of infections by making weak immune system. Here, we determined the effect of use of benzodiazepines on the occurrence of community acquired pneumonia (CAP).

Methods: We used Taiwan National Health Insurance Claim Database of 22 million (2002) population to investigate the association of benzodiazepines and CAP (community acquired Pneumonia). We selected window size of one months to compute odd ratios of the diagnosis of pneumonia and the benzodiazepine prescription filling during same time in all age and sex groups. We identified patients having CAP via ICD-9-CM (480-486) codes (International Classification of Diseases, Ninth Revision, and Clinical Modification) and medications from their prescription by using ATC (Anatomical Therapeutic Chemical) drug classification codes (N05BA01, N05BA02 and N05BA06) system for benzodiazepines.

Results: We found no significant association between benzodiazepines use with CAP for 30-day while computation of the odd ratios. We checked benzodiazepines separately by each class, also as an individual drug within the class and overall in combination but there is no association found that benzodiazepines are associated with community-acquired pneumonia. As in first month of January, we observed benzodiazepines were not associated with 30-day (one month) (OR 0.46 (95% CI 0.431 to 0.498)), February (OR 0.48 (95% CI 0.449 to 0.519)), March (OR 0.50 (95% CI 0.467 to 0.538)), November (OR 0.51 (95% CI 0.469 to 0.551) and December (OR 0.47 (95% CI 0.436 to 0.51)) in patients with a prior diagnosis of CAP.

Conclusion: Benzodiazepines were not associated with an increased risk for CAP. It is important to emphasize the need of randomized controlled trial for benzodiazepines use and incidence of CAP in patients to demonstrate any causal relationship in terms of morbidity. These hypothesis generating data suggest further research is required into the immune safety profile of benzodiazepines.

Keywords: Pneumonia, Community acquired pneumonia CAP, benzodiazepines, drug reposition, toxicology, post marketing surveillance