571 | Cyclooxygenase selectivity and chemical subgroup of non-steroidal anti-inflammatory drugs and frequency of spontaneous reporting of hypersensitivity reactions: A case/non-case study in Vigibase

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Background: Use of non-steroidal anti-inflammatory drugs (NSAIDs) has been associated with many adverse events, including hypersensitivity reactions (HSRs), such as angioedema and urticaria. However, no studies have investigated whether cyclooxygenase (COX) enzyme selectivity and/or chemical subgroups are associated with a difference in HSRs.

Objectives: To describe and compare the frequency of HSRs among NSAIDs based on cyclooxygenase selectivity and chemical subgroups.

Methods: A case/non-case study was performed using data from the World Health Organization global database of Individual Case Safety Report (ICSR), VigiBase, containing over 13 million ICSRs submitted by the participating member states enrolled 'under WHO's international drug monitoring program by June 2016. This study was nested among ICSRs where NSAIDs were a suspected drug. Cases were ICSRs mentioning HSRs (urticaria, angioedema, anaphylactic shock, anaphylactic reaction, anaphylactoid shock, and anaphylactoid reaction), whereas non-cases were all ICSRs without HSRs. Based on the ratio of inhibitory concentration 80% of COX-1/COX-2, NSAIDs were categorized into coxibs, non-coxib NSAIDs with COX-2 preference, NSAIDs with poor selectivity, and NSAIDs with unknown selectivity. Only ICSRs with complete information on age and sex, and NSAIDs with first market authorization from 1978 onward were included. RORs and 95% confidence intervals (95% CIs) to assess the association between NSAIDs and the reporting of HSRs were calculated using logistic regression analysis.

Results: We identified 16 289 HSR cases and 160 319 non-cases among ICSRs involving NSAIDs. Non-coxib NSAIDs with COX-2 preference, NSAIDs with poor selectivity, and NSAIDs with unknown selectivity were all associated with an increased reporting of HSRs (age- and sex-adjusted ROR 1.70, 95% CI: 1.61-1.79; age- and sex-adjusted 2.19, 95% CI: 2.11-2.77; and age- and sex-adjusted 1.26, 95% CI: 1.03-1.54, respectively) compared with coxibs.

Conclusions: HSRs were more often reported for NSAIDs with poor selectivity, non-coxib NSAID with COX-2 preference, and NSAIDs with unknown selectivity compared with coxibs.

572 | Eperisone-related adverse drug reactions including anaphylaxis: A study on 242 Korean patients

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Background: Eperisone is an oral muscle relaxant used in musculoskeletal disorders with muscle spasm. Eperisone is often prescribed with NSAIDs. In that reason, eperisone-related adverse drug reaction (ADR) has been overlooked. There are only a few case reports of anaphylaxis.

Objectives: The purpose of this study was to analyze the nationwide ADRs reported in Korea and suggest diagnostic approach of eperisone-induced ADR including anaphylaxis.

Methods: We reviewed eperisone-related pharmacovigilance data reported in Korea from 2010 to 2015. ADRs with causal relationship were selected. Clinical manifestations, severity, outcomes, and re-exposure information were analyzed. For further investigation, 7 years of ADR data reported in a single center was also reviewed. Oral provocation test, skin prick test, and basophil activation test were performed in this center.

Results: During the study period, 207 patients suffered adverse reactions to eperisone in Korea. Mean age was 55.4 years old and 67.1% of the patients were female. The most common ADRs were cutaneous manifestations including urticaria, rash, and angioedema (30.4%). Gastrointestinal symptoms (nausea, vomit, abdominal discomfort, constipation, and diarrhea) were second common ADRs (25.1%). Out of these, 32 (15.5%) patients were reported to have serious ADR, 35 (16.9%) patients were re-exposed and symptoms were reproduced. There were 35 patients with anaphylaxis, representing 16.9% of the patients. In a single center study, 35 patients were selected to analysis. Among them, 12 patients were agreed and underwent oral provocation test. All the provoked patients showed positive reaction. There were 9 patients of eperisone-induced anaphylaxis. Two anaphylactic patients were also underwent skin prick test and basophil activation test, and those were all negative.

Conclusions: Eperisone can cause diverse ADRs, including anaphylaxis. We reported 44 patients with eperisone-induced anaphylaxis. Eperisone is thought to induce non-IgE mediated immediate hypersensitivity based on the small number of mechanism studies.

573 | Abstract Withdrawn

574 | Signals of increased risk of serotonin syndrome associated with drug interaction with tramadol in spontaneous adverse event reporting database

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Background: Tramadol, a potent analgesic agent is commonly used in various pain conditions. Widespread use of tramadol may trigger coincidence of a potential adverse event serotonin syndrome due to drug interaction with other drugs with serotonergic effect.