Epidemiologic study based on Adverse Drug Events in patients visiting Emergency Department: A retrospective Observational Study in Three University Hospital

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Background: Adverse drug events (ADE) has been recognized as an important cause of serious morbidity and mortality. Severe cases of ADE requires immediate medical treatment including Emergency Department (ED) visits. However, the epidemiologic features of ADE leading to ED visits have not been well described in Korea. We aimed to estimate the prevalence and features of ADE leading to ED visits.

Methods: In this retrospective observational study, we reviewed all the cases of ED visits for six months, from July 2014 to December 2014, in two university hospitals in Seoul and a university hospital in Cheongju in South Korea. By reviewing all the medical records including National Emergency Department Information System Database, we identified cases of ADE and assessed the causative drugs, severity, types and preventability.

Results: The most common causative drugs of ADE was antineoplastic drugs, insulin and antidiabetic drugs, antithrombic or antiplatelet agents and vaccines. In terms of system of clinical manifestations, gastrointestinal, skin, body as a whole, neurologic and metabolic/nutritional symptoms were most frequent. The most common diagnoses of ADE were complication of insulin (and antidiabetic drugs), complication of antithrombic (or antiplatelet) agents, dizziness, generalized skin rash, gastritis, and neutropenia.

Conclusion: The prevalence of ADE in ED visits was common Korea and higher in older adults and females. Many cases of ADEs were preventable and predictable. Further prospective study is needed to evaluate the nationwide burden of ADE leading to ED visits.

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