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An In-Hospital Study to Trace the Risk Factors Associated with Adverse Drug Reactions during the Second Wave of COVID-19 in a Secondary Care Hospital in India

Jose J Kochuparambil*, Aleena Issac

Objectives: To characterize the adverse drug reactions (ADRs) and its the risk factors in COVID - 19 treatment in a secondary care hospital in South India.

Method: A prospective observational study was carried out on 327 patients admitted between April 1 and May 15, 2021 using an active in person surveillance system. The demographic characters of all the patients including the time of admission, comorbid diseases, length of stay, history of drug allergies and the number of medications used during hospitalization were collected. After identification of an adverse drug event, the causality, suspicious drugs and prognosis of ADRs were also recorded. Descriptive statistics and multivariate logistic regressions were carried out to analyze the risk factors of ADRs.

Result: Out of the 327 patients, 194 (59.3%) were men and the mean age was 45.7 ± 16.6 years. 122 ADRs were reported among 87 patients with an incidence rate of 26.6%. Most of the reactions were associated with dexamethasone (31.9%), remdesivir (18%) and favipiravir (14.7%) with dexamethasone induced hyperglycemia being most prominent. Majority of the suspected ADR cases were categorized to probable (61.8%) according to WHO-UMC causality assessment. When compared with the No ADRs group, the length of stay ($p=0.004$), history of drug allergies ($p<0.001$), number of drugs used in treatment ($p<0.001$) were significantly higher in the ADRs group. Multivariable analysis revealed that length of stay (OR: 2.03; 95% CI 1.02–3.98; $P = 0.04$), comorbidities (OR: 2.08; 95% CI 1.05–4.18; $P = 0.04$), number of drugs used for treatment (OR: 3.17; 95% CI 1.60–6.27; $P = 0.001$) and were independent risk factor for ADRs in the patients.

Conclusion: Active surveillance measures are important in case of all drugs used for COVID treatment so as to keep the living guidelines the most live one.