

Letter to the Editor

Adverse drug reactions as a potential contributing factor for inadequate anti-infective drug therapy

Anti-infective agents are one among the drugs most commonly implicated for producing adverse drug reactions (ADRs) [1,3,5]. The incidence of ADRs in patients receiving anti-infective agents was estimated to be 8.2% in a 9-month intensive monitoring study conducted in hospitalized patients by Gholami et al. [2]. Management of adverse reactions to drugs including anti-infective agents often include withdrawal of suspected drug or dose alteration [6]. These management strategies may lead to inadequate drug therapy. It is also known that inadequate drug therapy can contribute to anti-infective resistance [4]. We aimed at evaluating the contribution of ADRs to inadequate anti-infective therapy based on the ADR reports received in a tertiary care hospital.

ADR reports received in the ADR reporting unit of a tertiary care hospital in South India (Kasturba Hospital, Manipal) over a period of one year (March 2005–February 2006), with anti-infective agents for systemic use as the suspected drug was selected for evaluation. Drugs involved in the ADRs were classified into various drug classes according to anatomical therapeutic chemical (ATC) classification based on WHO–ATC Index 2006 [7]. Further, details on withdrawal or dose reduction of the suspected agents and subsequent management were assessed for their possible contribution to an inadequate anti-infective drug therapy.

Ninety-five ADRs attributed to anti-infective agents were reported during the one year study period, which accounted for 23.5% of ADRs reported in the unit. Antibacterials for systemic use (45; 47.3%) were the most commonly involved drug class followed by antimycobacterials (44; 46.3%). The ADR resulted in the withdrawal of the anti-infective agent or dose reduction in 46; 48.4% and 4; 4.2% of the reactions respectively. Withdrawal of the suspected drug or combination regimen occurred within 1–7 days, 7 days–2 months, 2 days–3 months for antibacterial for systemic use, antimycobacterials and antivirals for systemic use, respectively. Upon evaluation, in 36 (37.9%) of the ADRs, inadequate drug therapy was an outcome of the ADR caused by the management steps taken. The contributing factor for inadequate therapy was early discontinuation of the drug, interruption of drug therapy, inadequate combination regimens, and inadequate dose regimens in 18; 50%, 10; 27.8%, 6; 16.7% and 2; 5.5% of the reactions, respectively.

ADRs could contribute to inadequate anti-infective drug therapy and thereby possibly to drug resistance. This important consequence of ADRs needs to be recognized together with the other outcomes of ADRs. Abrupt withdrawal of drugs or dose reductions are inevitable in the management of ADRs in many instances. Importance should be given to prevent ADRs where ever possible. Further, care should be taken to replace the withdrawn drugs with effective alternatives, early reintroduction where ever

practically possible and withdrawal of all the agents in a combination regimen as with antitubercular and antiretroviral drug regimen to reduce inadequate combination regimen.

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