

Letter to the Editor

Medical and economic impact of misdiagnosis of drug hypersensitivity in hospitalized patients

To the Editor:

A substantial proportion of patients admitted to the hospital have a diagnosis of drug hypersensitivity (DH). However, this diagnosis may sometimes be inaccurate,¹⁻⁴ causing deleterious medical and economic consequences. We report the results of a study whose objectives were to determine the frequency with which reports of DH in a tertiary university hospital bring about both changes in drug selection and increased costs and also to assess the validity of the initial DH diagnosis.

Mandatory DH data for all hospitalized patients were obtained from the electronic medical records for one day chosen at random. The modified treatment regimen received by each patient on the basis of assigned physician's opinion of the presence of DH and the resulting treatment cost were evaluated for deviation from standard care. Finally, all patients with drug allergy received an in-depth study in our department consisting of clinical history, review of previous reports, and, where appropriate, skin prick and intradermal test and challenge tests, so as to confirm or rule out DH. DH diagnosis was considered to be definitive in cases in which a previous study had been carried out in our department or if patients provided us with an allergist's report in which a diagnosis was clearly established. The reports included positive intradermal or skin prick test result, positive challenge test result, or unequivocal reaction suggestive of DH. Of the 505 patients hospitalized on the day selected for the study, 81 (16%) were diagnosed with DH, 69% of whom were females. Of the drugs implicated at the beginning of the study, 31 (38%) were antibiotics (beta-lactam antibiotics in 19 and other antibiotics in 12), 23 (28%) were nonsteroidal anti-inflammatory drugs, 15 (19%) were iodinated contrast media, and 12 (15%) were other drugs (Fig 1). Only 60% of the physicians declared that they had verified DH diagnosis upon patient admission. In 11 patients with DH, the use of these drugs was necessary during admission and, therefore, this diagnosis led to drug changes. In 6 cases, beta-lactam antibiotics were substituted with quinolones or vancomycin, and in the other 5 cases, nonsteroidal anti-inflammatory drugs were replaced with coxibs or paracetamol. Iodinated contrast media was not used in 2 patients despite indication. Changes in drugs increased mean treatment costs 4-fold (range, 2-11; mean, €273.47 per patient per day). The allergologic study revealed that in 26 (32%) patients (5% of the admitted patients), the original diagnosis of DH was correct (19 immediate and 7 delayed reactions); 26 (32%) had contraindications due to nonallergic adverse events caused by the drugs (reactions included side effects of nonsteroidal anti-inflammatory drugs—abdominal pain, digestive hemorrhage—extrapyramidal effects of some drugs, diarrhea induced by antibiotics, or cutaneous reaction with subsequent good tolerance of the drug); in 13 (17%) patients, DH was ruled out by challenge tests; in 10 (12%) patients, it was impossible to perform the allergy workup for various reasons; and in 6 (7%) patients, when

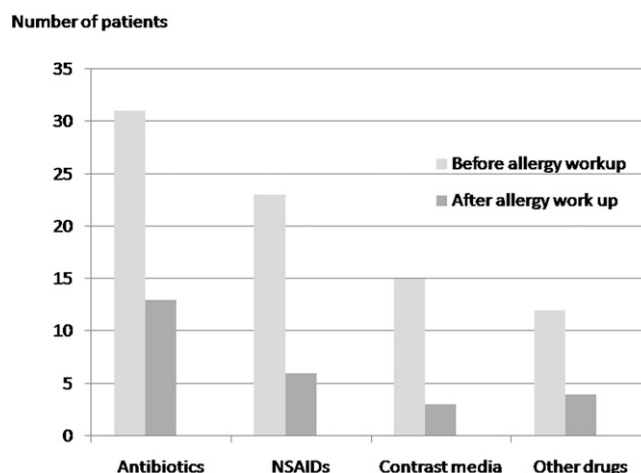


FIG 1. Number of patients with diagnosis of drug hypersensitivity at the time of hospital admission and after an in-depth allergologic study. NSAIDs, Nonsteroidal anti-inflammatory drugs.

interviewed, the patient denied having had DH and had tolerated the drug without any reaction (Fig 1). Therefore, of the 71 patients studied in depth, DH diagnosis was confirmed in only 26 (37%). Discrepancies between medical records and in-depth allergy studies are common in hospitalized patients, and the validity of reported DH is often questionable. Because the documentation of DH frequently alters therapy and increases the cost of treatment, verification of these reactions may prove beneficial.

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