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Brief report

Severe hemorrhagic syndrome due to similarity of drug names

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Abstract

The names of many drugs look or sound like those of other drugs, which leads to confusion and potentially harmful medication errors. We report a nearly fatal permutation between two drugs including a vitamin K antagonist that resulted in a 68-year-old man being admitted to the emergency department with severe, spontaneous hemorrhagic syndrome. Such problems can be alleviated through actions by regulatory agencies, pharmaceutical manufacturers, health care professionals, and patients.

Keywords: Vitamin K antagonist; Drug names; Hemorrhagic syndrome; Medication errors

1. Introduction

The names of many drugs look or sound like those of other drugs, which leads to confusion and potentially harmful medication errors. The literature is replete with examples of confusing pairs of drug names. Here, we report a nearly fatal permutation between two drugs including a vitamin K antagonist.

2. Case report

A 68-year-old man was admitted to the emergency department because of severe, spontaneous hemorrhagic syndrome with diffuse ecchymosis of the skin, hematoma of the right thigh, and macroscopic hematuria. Physical examination was normal, except for the multiple ecchymosis. Laboratory analyses showed a normal hemogram but an increased prothrombin time and partial thromboplastin time with decreased vitamin K-dependent co-factors and a normal factor V. The patient received intravenous vitamin K and his coagulation parameters returned to normal within 48 h without significant anemia. He had previously been treated for mild gastritis with proton pump inhibitors and for benign prostatic hypertrophy with Permixon (a plant extract, also known as *Serenoa repens*), and he did not mention taking any other new drugs.

A brief interview with the patient's pharmacist disclosed a recent modification of the patient's last prescription, with the addition of Previscan (fluindione) but no further prescription for Permixon. This led to the conclusion that Previscan had been delivered instead of Permixon because of their graphic similarities and, possibly, the prescribing physician's poor handwriting. Since the patient was planning to travel for a prolonged period of time, he had recently had his prescription renewed by his GP, and he was convinced that he was still taking therapy for his prostatic adenoma.

3. Discussion

We report a new case of a severe, adverse event occurring secondary to the dispensing of an inappropriate drug (Previscan instead of Permixon in this case), due to the graphic similarities of the pharmaceutical names of both drugs. The names of many drugs look or sound like those of other drugs, which leads to confusion and potentially harmful medication errors, as in this case involving a vitamin K antagonist [1]. Several factors may increase the likelihood of medication errors due to name confusion.

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Factors such as poor handwriting and clinical similarity may exacerbate the problem. Poor handwriting may cause drug names that do not look similar when printed to be confused. Similar dosage strengths, dosage schedules, indications for use, and route of administration may increase the risk of confusion between two names that may already have some similarity when handwritten or spoken [2].

This problem can be alleviated through actions by regulatory agencies, pharmaceutical manufacturers, health care professionals, and patients. In Europe, significant changes in the pharmaceutical regulatory process have occurred [3]. The EMEA (European Agency for the Evaluation of Medicinal Products) has taken regulatory measures to establish safer names for drug products. The EMEA's Committee for Proprietary Medicine created a subcommittee called the Name Review Group (NRG) to review proposed drug brand names. The processes used to prescribe medications must also be improved to reduce the risk of harmful medication errors due to confusion of drug names. Some propose writing both the generic and brand names on the prescriptions, while others want to note the indication for use next to each drug that is prescribed, the indication acting as a double check when the drug name is confusing or indecipherable, since most confusing name pairs have different indications [4]. Printed prescriptions may be the most effective way to prevent drug confusion, but they are still not widely available among general practitioners. Pharmacists should be aware of common drug names that tend to cause confusion and lead to medication errors. They could also, for example, identify drug names that are most likely to be confused and program alerts into their computer. Finally, proper patient education (i.e., explaining drug therapy to patients) may help to reduce errors due to confusion of drug names.

In France, the AFSSAPS (Agence Française de Sécurité Sanitaire des Produits de Santé) has recently published a "vigilance" note, listing other cases of deleterious drug name similarity, the most recent and worrying example being the replacement of Meteoxane, a digestive regulator, with the immunosuppressive drug Methotrexate [5]. To our knowledge, the mis-prescription of Previscan in the place of Permixon has only been reported once before [6]. The public should be made aware of this kind of mistake because of the potentially deleterious consequences it can have.

As the number of drugs on the market increases, this problem will likely grow. Health care practitioners need to be aware of the role that drug names play in causing medication errors and of changes in the system that can be made to prevent them. They should be assisted by regulatory agencies, pharmaceutical manufacturers, and patients.

4. Learning points

- The names of many drugs look or sound like those of other drugs, leading to confusion.
- Previscan, a vitamin K antagonist, was given in place of Permixon, which is used to treat symptoms of prostatic adenoma; the result was severe hemorrhagic syndrome.
- Factors such as poor handwriting and clinical similarity may exacerbate this problem.
- Preventing such confusion requires the involvement not only of health care practitioners, but also of regulatory agencies, pharmaceutical manufacturers, and patients.

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