A case report on the significance of clinical pharmacy services in India

Sameer Dhingra¹ & Rachna Kumria²

¹School of Pharmacy, The University of the West Indies, Faculty of Medical Sciences, Eric Williams Medical Sciences Complex, Uriah Butler Highway, Champ Fleurs, Trinidad and Tobago
²Swift School of Pharmacy, Swift Group of Colleges, Rajpura, Punjab, 140 401, India

Introduction

Clinical pharmacy services in India are still in their infancy. Most Indian hospitals lack qualified clinical pharmacists. We present a case report of a patient to highlight the significance of clinical pharmacy services in a health-care setup.

More than a decade has passed since education in clinical pharmacy practice was introduced in India. Yet, there has been negligible or no improvement in the practice of the pharmacy profession in Indian hospitals. Despite the introduction of this field of education, the presence of the clinical pharmacist is minimal to nonexistent in the health-care system. This has led to several drug-related problems, including the deaths of patients. In this article, we report a case where the patient died due to the absence of clinical pharmacy services in a tertiary care hospital.

Case Report

The health of a 65-year-old female patient with type II diabetes and essential hypertension was maintained on oral hypoglycemic agents (metformin and glimepiride) as well as on insulin glargine (Lantus), an angiotensin receptor blocker (telmisartan), a beta blocker (metoprolol), and aspirin. She was also taking nortriptyline for depression. All the essential parameters, like blood sugar levels, Hb1Ac, blood pressure, lipid profile, liver function, and renal profile, were well under control. One day, however, the patient lost her balance and fell, thereby fracturing her femur bone. She was admitted to a private tertiary care hospital to fix her fractured femur. She was operated upon and the bone was fixed using rods and screws. Thereafter, she was discharged with a number of prescribed antibiotics and painkillers, including opioid analgesic tramadol for pain. The prescription stated, “All other medications to continue.” The family was instructed to keep her immobilized so that the bone remained in place. A few weeks later after her surgery, patient died of coronary artery disease and acute coronary syndrome.

Discussion

In the present case, the drug tramadol was prescribed to the patient for postoperative pain with instructions “other
medications to continue”. However, the need for evaluating the prescribed medication for a drug interaction went unnoticed and important role of clinical pharmacist was underestimated. Nortriptyline is a tricyclic antidepressant with serotonergic effect and the patient was taking this medication (50 mg daily in two divided doses) for more than 5 years. Tramadol is another serotonergic agent, which upon administration with another such agent (nortriptyline) may precipitate serotonin toxicity termed as serotonin syndrome [1]. Serotonin syndrome precipitates with symptoms hyperreflexia, clonus, incoordination, tremors, a changed mental state, shivering, fever, agitation, and diarrhea and in severe cases may lead to death. This particular patient also experienced some of these symptoms quite often during the treatment.

Treatment with anticoagulant therapy like heparin is a standard, preventive measure for protection against venous thromboembolism (VTE) in surgical and high-risk bedridden medical patients [2]. In a patient who was also a high-risk bedridden patient, the need for anticoagulant therapy (heparin) for the prevention of VTE was unnoticed by the surgeons and medical team, probably due to the lack of clinical practice guidelines. Had the prescription been evaluated and counterevaluated thoroughly by the team members (where a clinical pharmacist was also a member), the omission might have been detected. This, however, did not happen, and the otherwise successful surgery turned out to be fatal for the patient who developed embolism a few weeks after the surgery. She was admitted to the emergency department of a tertiary care hospital with fever, chills, rigors, profuse sweating, and vomiting. She developed severe respiratory distress and was subsequently intubated and put on a ventilator. Tenecteplase injection was administered, but the situation did not improve and the patient collapsed.

In developed countries like Australia and United States, pharmacists play an important role in health care by providing drug information to physicians and pharmaceutical care to patients. Pharmacists also play a crucial role in developing clinical guidelines and standard protocols for treating various clinical conditions in day-to-day practice. Contrary to this, in India, the role of clinical pharmacist to assist the physician while making a decision on drug therapy, monitoring the prescribed drug therapy, and solving the drug-related problems and thereby providing them pharmaceutical care is neglected or underestimated. Even though clinical pharmacy practice has grown into an unavoidable part of the health-care system worldwide and the position has gained due respect and support from patients and the medical professionals equally, it seems, in India, the government health authorities are turning a blind eye to these developments taking place globally. There are no regulatory guidelines for having a qualified clinical pharmacist in the Indian hospitals. In the absence of these guidelines, the patients are not getting the benefit of clinical pharmacy services, and drug-related problems are at an alarming stage. It is high time that the health authorities in India recognize the role of clinical pharmacists and take affirmative steps to avoid such incidents in the future.

**Conclusion**

This case illustrates the need of a trained clinical pharmacist to address the drug-related problems in a hospital setup so that such negligence does not occur in the future. In the present case, absence of the clinical pharmacist in hospital setup led to such negligence where a patient lost her life that could have been probably saved by the combined effort of the concerned physician, clinical pharmacist, and other members of the health-care team.

**Acknowledgment**

The authors would like to thank Ashok Kumria for providing assistance in articulation of this case study report.

**Conflict of Interest**

None declared.

**References**

1. Rossi, S. 2012. Australian medicines handbook 2012. Australian Medicines Handbook, Adelaide.
2. NHMRC. 2009. Clinical practice guideline for the prevention of venous thromboembolism (deep vein thrombosis and pulmonary embolism) in patients admitted to Australian hospitals. National Health and Medical Research Council (NHMRC), Melbourne, Australia.