

## PHARMACOTHERAPY REVIEW: A STRATEGY FOR SAFE MEDICATION USE IN ELDERLY PATIENTS - A CASE REPORT

Silva, T.A.1<sup>\*</sup>; Nogueira, J.S.1 ; Kawahito, T.C.1 ; Queiroz, A.P.A.<sup>2</sup>

*1Federal Rural University of Rio de Janeiro, Km 07, Zona Rural, BR-465, Seropédica, RJ, Brazil.*

*2Federal Rural University of Rio de Janeiro, Km 07, Zona Rural, BR-465, Seropédica, RJ, Brazil.*

*\*azevedo.tay20@gmail.com*

### Introduction

The growth of the elderly population is associated with an increased prevalence of chronic diseases, making pharmacotherapy an essential component in the treatment of this group, which frequently uses multiple medications (polypharmacy) [1]. However, drug use in the elderly is challenging due to the increased risk of adverse reactions, drug interactions, and complications arising from the physiological changes of aging. Periodic reviews of therapeutic regimens are a fundamental strategy to ensure the safety and efficacy of pharmacotherapy in older adults.

### Methodology

This study presents a case report of a 65-year-old female patient with a history of hypertension and hypothyroidism. The patient developed a gastric ulcer and complained of chronic joint pain, intense headaches, and back pain. The patient was on eight medications: losartan potassium 50 mg, hydrochlorothiazide 25 mg, aspirin 100 mg, simvastatin 20 mg, levothyroxine 25 mg, diclofenac sodium 50 mg, clonazepam 2 mg, and omeprazole 20 mg. The pharmacotherapy review was conducted by a clinical pharmacist who evaluated drug interactions, dose adjustments, and the risk of adverse events, while also considering the patient's clinical and laboratory parameters.

### Results and Discussion

The pharmacotherapy review identified significant drug interactions. Levothyroxine and omeprazole, both administered on an empty stomach at the same time, were found to have reduced absorption when taken simultaneously, compromising their therapeutic effects. As an intervention, it was proposed to space the administration of these medications while maintaining the fasting requirement.

Another relevant interaction involved the concomitant use of NSAIDs (aspirin and diclofenac sodium) and thiazide diuretics (hydrochlorothiazide). Anti-inflammatory drugs antagonize the diuretic effect, compromising blood pressure control. Given the chronic nature of hypertension, it was recommended to replace diclofenac sodium with a weak opioid, such as codeine. Furthermore, NSAIDs inhibit prostaglandin production, which is essential for protecting the gastric mucosa, justifying the development of a gastric ulcer in the patient and the prescription of omeprazole, an H<sup>+</sup>/K<sup>+</sup>-ATPase inhibitor, as an attempt to mitigate gastric damage [2].

## **Conclusion**

Pharmacotherapy review is an essential tool in the care of elderly patients, contributing to the prevention of adverse events and the safe use of medications. Knowledge of drug interactions and available therapeutic alternatives can prevent or minimize complications [3]. This case report highlights the importance of the clinical pharmacist's role in optimizing treatments in vulnerable populations, such as the elderly, who are more susceptible to medication-related complications.

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## **Bibliographic References**

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