



## Case Report

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# GERIATRIC APPROACH IN PRIMARY CARE: CASE REPORTS FROM A RURAL TOWN BİRİNCİ BASAMAKTA GERİATRİK YAKLAŞIM: KIRSAL BİR BÖLGEDEN OLGULAR

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## Öz

Geriatrik hastalar çok sayıda hastalığa sahip olmaya ve yüksek ilaç yükü altında kalmaya yatkındır. Aile sağlığı merkezleri, yaşlıların muayene ve reçete ihtiyaçları için hastanelere kıyasla daha ulaşılabilir yerlerdir. Kırsal bölgelerde, aile sağlığı merkezlerinin bu uygunluğu daha da önemli hale gelir. Bu durumda, aile hekimleri kırsal bölgede yaşayan yaşlıların yaşadıkları problemleri tespit edecek ve ilaçlarını düzelterek doğru ilaç kullanımını sağlayacak tek doktorlar olmaktadır. Bu makalede, kırsal bir bölge olan Bala’da, aile hekimini ziyaret eden üç geriatrik hasta olası uygunsuz ilaç kullanımı yönünden ele alınmıştır.

**Anahtar Kelimeler:** Birinci basamak, uygunsuz ilaç kullanımı, polifarmasi.

## Abstract

Geriatric patients tend to have multiple diseases and a high burden of medication. Primary care centers are more accessible for the elderly to meet their examination and prescription needs compared to hospitals. In rural places, the convenience of primary care centers is far more important. Therefore, family physicians may be the only doctors in rural places to correct and/or supply proper medications as well as detecting ongoing problems of the elderly. In this article, three geriatric patients who visited their family physician in a rural town, Bala, were evaluated in terms of potentially inappropriate drug use.

**Keywords:** Primary care, inappropriate use of medication, polypharmacy.

## Introduction

Life expectancy is rapidly lengthening. Aging is a process in which healthy adults turn into frail people. The physiological capacity of the body decreases with age, and the body becomes vulnerable to diseases. This brings up problems such as polypharmacy and Potentially Inappropriate Use of Medications (PIM).

Three case series are explained below. Each of them has both similar and/or unique features, which aim to show different problems. We also suggested solutions for each case, considering contemporary guidelines. Informed consent was obtained from all patients.

## Case Series

### *Case 1*

An 83-year-old male asked his family physician for a repeat prescription. He had no medical complaints. His medical history was vitamin B12 deficiency, which was diagnosed five months earlier, allergy on and off symptoms, and coronary artery disease for which he got a recent coronary stent placement.

His daily medication list included vitamin B12, clopidogrel, loratadine. In addition to these, he was taking amitriptyline occasionally. He had been on vitamin B12 for five months and clopidogrel for 20 days. He said that amitriptyline had been prescribed to him to relieve the feeling of 'restlessness' by his cardiologist.

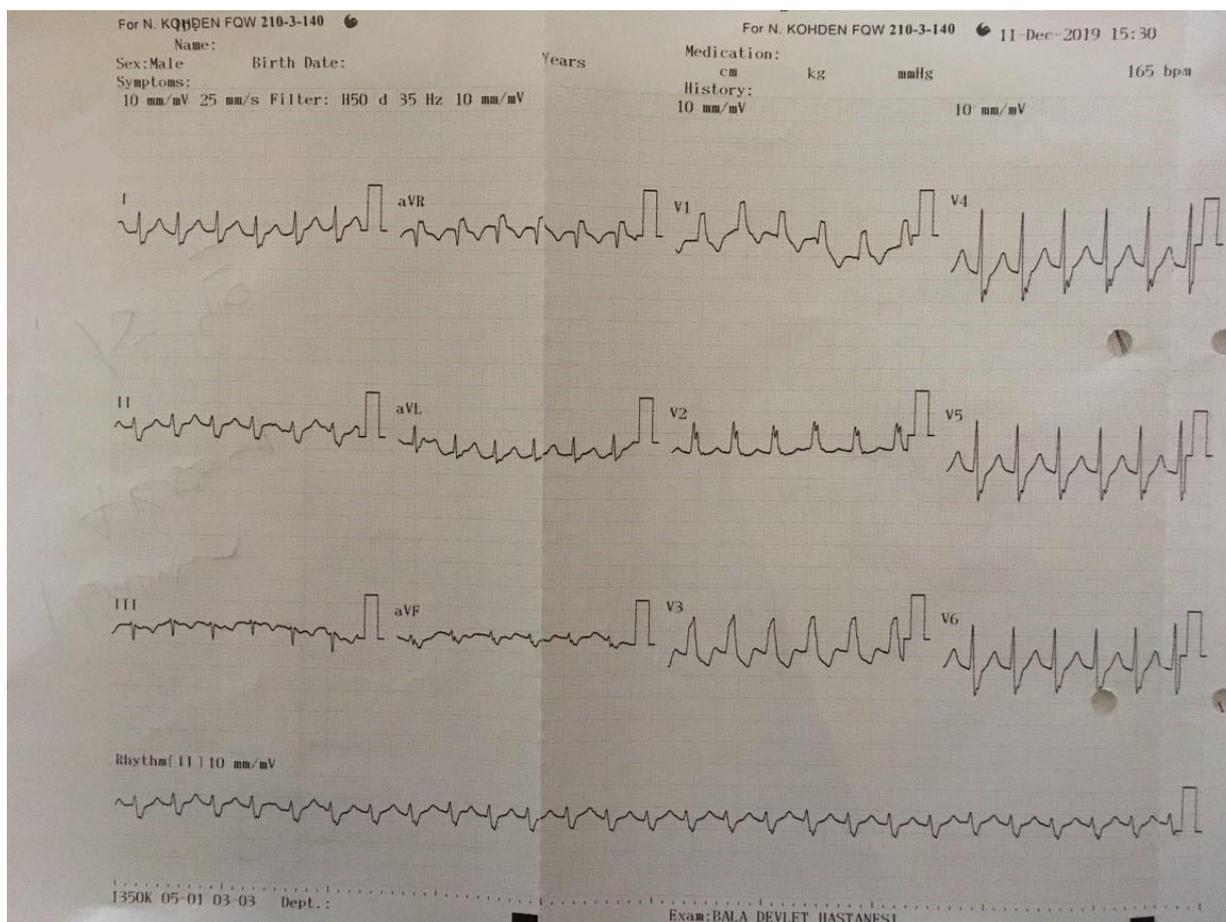
While discussing his history of medical use, the patient said that despite having had a recent coronary stent placement, he wasn't feeling well.

Physical examination of the patient showed abnormal cardiac rhythm with tachycardia. An electrocardiogram (ECG) was ordered. The ECG showed Supra-Ventricular Tachycardia (SVT) with Right Bundle Branch Block (RBBB) (Figure 1). He was referred to the emergency department. A follow-up visit was scheduled.

One week later, the patient came for a follow-up visit. He had been hospitalized in a cardiology clinic and had undergone Electrophysiologic Study (EPS). However, source of abnormal electrical activity could not be detected, and the patient was given medical therapy.

In the follow-up meeting, the medication list of the patient was updated to avoid PIM. Since the patient was able to absorb vitamin B12 and was consuming enough meat, 5 months of B12 supplementation was considered to be more than enough and was stopped.

The patient was on amitriptyline; however, according to the American Geriatrics Society (AGS) 2019 Updated Beers Criteria for PIM, Amitriptyline is highly anticholinergic, sedating, and causes hypotension in the elderly. Because of the strong evidence, it is strongly recommended to avoid this drug.<sup>1</sup> In addition to that, amitriptyline has cardiac side effects and should be avoided in treatment for depression in elderly patients.<sup>2-3</sup> Considering the cardiac problems of the patient and lack of depressive symptoms, amitriptyline was stopped. Loratadine is an H2 antihistamine, was found to be safe and proper information was given out.



**Figure 1.** ECG is showing supraventricular tachycardia with right bundle branch block.

### Case 2

A 77-year-old female patient came to the primary care center because of flank pain. The pain was in moderate severity and started about three months ago. It was not related to voiding or physical movements. The patient used to take a combination of losartan with thiazide. However, the patient could not find it in her local pharmacy. She was given candesartan combined with Hydrochlorothiazide instead. The patient did not benefit from the new tablet and her blood pressure increased. Hence, perindopril was added as an antihypertensive by another physician. The patient claimed that her flank pain started after she had started taking perindopril.

Her medical history included hypothyroidism, osteoarthritis, and hypertension. She was occasionally on lansoprazole, acetaminophen, and diclofenac in addition to her antihypertensives and L-thyroxin, which she took daily.

Physical examination of the patient was normal except for increased blood pressure which was 180/100 mmHg. Blood and urine analysis was conducted, and both were within the normal limits. The patient was evaluated to detect any PIM. The combination of candesartan and perindopril increases the rate of adverse drug effects and is not recommended.<sup>4-5</sup> Hence, perindopril was stopped. Amlodipine 5 mg daily was started as the third antihypertensive, and home blood pressure measurements were requested from the patient. Thyroid function tests were within the normal range for the patient, so thyroid replacement therapy was found to be effective. Proton Pump Inhibitors (PPI) increase the risk of *Clostridium difficile* infection, bone loss, and fractures; hence are not recommended after eight weeks in geriatric patients according to AGS Beers Criteria 2019.<sup>1</sup> The patient was taking diclofenac and acetaminophen when she had knee pain. Although not recommended routinely in high-risk patients such as patients with chronic NSAID use, PPI treatment could be necessary.<sup>1</sup> The patient was informed about NSAID's side effects, and lansoprazole was stopped. The patient was informed that if the need for NSAIDs increases, she will need to consult her physician in the future.

### Case 3

A 78-year-old male patient visited the clinic to get a repeat prescription. He had no medical complaints. His medical history included diabetes mellitus, hypertension, and benign prostate hyperplasia. His medications were metformin (850 mg - three times a day), silodosin, lercanidipine, and acetylsalicylic acid. The patient said his blood glucose levels were high, and he skipped metformin sometimes. The physical examination was normal. Blood and urine samples were ordered, and he was asked to measure home blood glucose and home blood pressure for a week.

HbA1c level of the patient was 7.9%. Creatinine was 1.48 mg/dL. Other blood and urine tests were within normal limits. The glomerular filtration rate (GFR) was calculated as 45 mL/min/1.73m<sup>2</sup>.

The mean blood pressure of the patient was 169/91.6 mmHg. The Eighth Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 8) suggests 'in the general population aged 60 years or older, treat to a goal systolic blood pressure (SBP) lower than 150 mmHg and goal diastolic blood pressure (DBP) lower than 90 mmHg.'<sup>6</sup> In order to achieve the goal of blood pressure in our patient, lercanidipine 20 mg daily was found to be insufficient. Lifestyle modifications were explained to the patient. Because the patient also had Diabetes Mellitus, perindopril combined with amlodipine was prescribed, and the patient was asked to perform home blood pressure measurement for the follow-up meeting.

Mean fasting blood glucose was 188 mg/dL with a maximum of 210 mg/dL and a minimum of 153 mg/dL. Mean post-prandial blood glucose was 247 mg/dL. Minimum post-prandial blood glucose was 160 mg/dL and 359 mg/dL maximum. It is recommended by the American Diabetes Association that ‘older adults who are otherwise healthy with few coexisting chronic illnesses and intact cognitive function and functional status should have lower glyceic goals (such as A1C <7.5% [58 mmol/mol])’ and our patient fitted into that category. Metformin is the first-line agent in the treatment of diabetes mellitus type 2.<sup>7</sup> However, a half dose (1000 mg/day) is recommended in patients with GFR 30-60 mL/min. The metformin dose was lowered to 1000 mg/day.<sup>8</sup> To reach the optimal blood glucose management for the patient, another antidiabetic drug was necessary. Sulfonylureas are known to be hypoglycemic agents. However, gliclazide being the second generation short-acting sulfonylurea causes less hypoglycemia.<sup>7-9</sup> Gliclazide 30 mg daily was added as a second antidiabetic drug.

The patient was on acetylsalicylic acid (300 mg/day) for primary prevention. In the 2019 AGS Beers Update Expert Panel, the age threshold beyond which extra caution is advised for using aspirin for the primary prevention of cardiovascular disease was lowered to 70 years or older for 80 years or older. Considering the age and the GFR of our patient, the risk of gastrointestinal bleeding was considered superior to the benefit of primary prevention, and therefore aspirin was stopped.

## Discussion

Geriatric patients tend to have subtle and atypical symptoms.<sup>10</sup> The symptoms of even serious diseases such as SVT may be masked. Regarding our *Case 1*, the family physician assessed the patients’ history of medical use. After that, a proper physical examination led the physician to diagnose the ongoing yet hidden emergency. This case is a good reminder to be cautious with geriatric patients who do not even have any complaints. Each and every consultation of geriatric patients should include a reevaluation of the medications. This case report is also an important example of PIM and how to correct it.

In rural places, the transportation of the elderly could be problematic. Such as our patient in *Case 2* whose antihypertensives were changed due to the local pharmacy’s lack of stock. While handling geriatric patients’ diseases, family physicians in rural areas should also consider local social life conditions. The most suitable drug must be found to achieve treatment compliance.

Resembling our *Case 3*, patients with hypertension, diabetes and/or reduced GFR are very common in daily geriatric practice due to the high incidence rate of these diseases. It is important to avoid PIM while at the same time reaching target goals to reduce cardiovascular risk. This case report is an example of how to handle elderly patients with comorbidities.

These three cases show that elderly people need an attentive evaluation of their medication on every visit. In rural places like Bala, family physicians are responsible for avoiding PIM and polypharmacy in elderly patients. Thus, every geriatric patient who visits a primary care center to get a repeat prescription should be asked about their history of medical use as well as being given a physical examination.

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