

**CLINICAL AND PHARMACEUTICAL ANALYSIS OF MEDICINAL THERAPY
IN ELDERLY PATIENTS OF THERAPEUTIC PROFILE
AT PORT-SAID HOSPITAL (EGYPT)**

Mina Magdy Fakhry Shenouda Ibrahim
Scientific supervisor: prof. Moroz V. A.
National University of Pharmacy, Kharkiv, Ukraine
vl_moroz@yahoo.com

Introduction. Currently, a universally recognized fact is the widespread increase in the life expectancy of the population, which is the most significant achievement of medicine in the last three decades. So, according to statistics, in the United States, people over 65 currently make up 17% of the population. And according to experts, by 2060 in the country, almost every fourth person will be over 65 years old (24% of the population). In the whole world, according to UN estimates, the proportion of people over 65 years of age will reach at least 22% of the global population by 2050, and in economically developed countries there will be one senior citizen for every worker. This ubiquitous phenomenon raises many problems – from social to economic and medical. In the USA, in particular, it is the elderly who consume about 30% of all medicines prescribed in this country and are the main consumers of medical services and financial resources spent on healthcare. Data from epidemiological studies indicate a difficult demographic situation in Egypt. One of the highest birth rates in the country causes a high percentage of young people (15-24 years old), which is 16%. Because of this, the proportion of people over 65 grows relatively slower – from 3.6% in 1976 to 4.3% in 2015. But in absolute terms, these indicators are quite significant.

Elderly and senile patients constitute the main contingent of patients requiring medical treatment. This is due to both an increase in the incidence rate with age and several changes in the social status characteristic of the elderly and their medical and behavioral disorders. Elderly patients have an average of 3-4 chronic diseases (and often more!), which necessitates the use of several medicines at the same time. And the predominance of the chronic course of pathologies leads to a long and continuous intake of these medicines. This significantly increases the risk of developing serious adverse effects and complications, even fatal. All this necessitates the rational use of medicinal treatment in this category of patients.

Aim. Our study aimed to assess the rationality of the use of medicinal treatment in elderly patients following the approved international recommendations for its implementation with the further development of relevant practical recommendations.

Materials and methods. We conducted a clinical and pharmaceutical analysis of 94 case histories of patients over 65 years old who were hospitalized in the departments of the Al Salam hospital (Port Said, Egypt). The study group included 30 men and 64 women who received treatment in the first half of 2019. Patients had diagnoses of various origins. Most of them had cardiovascular and chronic pulmonary pathology, neurological disorders, pathologies of the musculoskeletal system, etc. When analyzing case histories, the prescription of medicines, the rationality of their use and the possibility of replacing from the list of recommended for elderly and elderly patients following the criteria of the American Geriatric Association in 2015 were recorded. Besides, three categories of unwanted prescriptions were identified: 1) potentially not recommended medicines, applications to be avoided in older people; 2) potentially not recommended preparations and their combinations, the use of which should be avoided in the elderly with certain diseases and syndromes (which may aggravate the disease); 3) medicines that in the elderly should be used with caution. Analysis of sheets of medical prescriptions and recommendations at discharge was carried out separately. And the results obtained were added to the general analysis of appointments.

Results and discussion. Patients of the age group up to 70 years old comprised 57 people (23 men and 34 women), while the older contingent consisted of 37 patients (25 women and 12 men). In total, 88 prescriptions of potentially unwanted and contraindicated medicines for elderly patients were

identified. Among them, the appointment of NSAIDs (diclofenac and ketorolac – 10 cases) was noted, which in this category of patients significantly increases the likelihood of developing gastropathy. Metoclopramide was used in 8 patients, although it is classified as undesirable for elderly patients due to very likely side effects from the central nervous system (parkinsonism, dyskinesia). Amiodarone, which was used in 6 patients, gives a high risk of developing severe bradycardia up to a stop of the sinus node. Some other antiarrhythmics also have similar age restrictions: dronedarone, procainamide, propafenone, quinidine, sotalol. However, it is precisely amiodarone in the elderly that tends to cause pulmonary toxicity (cough, shortness of breath, pulmonary fibrosis) in 5-17% of patients. Amitriptyline, which was used in 4 elderly patients, has a pronounced anticholinergic effect and due to the effect on α -adrenergic receptors and can cause orthostatic hypotension, as well as excessive sedation. Glibenclamide (4 appointments), thioridazine, nitrofurantoin and reserpine (3 appointments), atropine and promethazine (3 appointments) and some others also had contraindications.

Other cases of irrational administration of medicines that are not directly related to the use of not recommended in elderly patients have also been identified. The frequent use of statins of an early generation (simvastatin, lovastatin, fluvastatin) was noteworthy. Also, in four cases, their doses were overestimated, which increased the risk of developing a typical side effect of this group of medicines - systemic myopathy. In one patient, digoxin (in appropriate doses for the elderly) and verapamil were prescribed together. The latter can increase the concentration of digoxin due to a decrease in both renal and extrarenal clearance. In two patients, clopidogrel was combined with omeprazole, which inhibits the formation of an active metabolite. What reduces or eliminates the antiplatelet effect.

Conclusions. A high frequency of prescribing medicines that are potentially not recommended for elderly patients has been established, which can lead to negative consequences, worsen the quality of life and increase mortality. In the group of patients studied by us, such appointments, according to records in medical histories, were noted in 93.6% of the analyzed medical histories (88 out of 94). The use of medicines that could potentially be avoided in elderly patients (76 cases) or directly contraindicated in this clinical situation (12 cases), an overestimation of the dosage of the preparation (18 cases) and incorrect prescriptions when discharging the patient from the hospital (30 cases) was noted. Based on the results obtained in the study, to increase the rationality of medicine treatment of elderly patients, relevant recommendations have been developed.

BODY COMPOSITION MEASUREMENTS OF HEALTHY VOLUNTEERS PARTICIPATING IN A BIOEQUIVALENCE STUDY OF A GENERIC METFORMIN DRUG

Mohammad Abd El Naser Hammad

Scientific supervisor: ass. prof. Popov O.S.

National University of Pharmacy, Kharkiv, Ukraine

oleksii.s.popov@gmail.com

Introduction. Healthy volunteers in a bioequivalence study have to be within normal body-mass index (BMI). Yet people of similar BMI still can be considerably different in their body composition due to different proportion between fat tissue mass, muscle tissue mass, bone mass, and body water. This, in turn, may interfere with the pharmacokinetic parameters of a studied drug making the whole trial less precise.

Aim. To study variation of the body composition measurements of healthy volunteers participating in a bioequivalence study of a generic metformin drug and assess the possible effect of the measured parameters on pharmacokinetics of metformin.

Materials and methods. Body composition of 26 healthy volunteers was measured by body impedance analysis (BIA) using Tanita MC-780 MA device (Japan). The measured parameters include fat percentage, fat mass, fat-free mass, muscle mass, bone mass, BMI, skeletal muscle mass (SMM), total