

Clinical case

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POLYMORBIDITY DOES NOT DETERMINE POLYPHARMACY

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Combination of polymorbidity and polypharmacy is reviewed on the example of clinical case. Clinical examination, the clinical diagnosis, recommendations for lifestyle modification choice of optimal therapy are outlined in patient with polymorbid disease.

KEY WORDS: polymorbidity, polypharmacy, rational pharmacotherapy, quality of life, disease prevention

ПОЛІМОРБІДНІСТЬ НЕ ВИЗНАЧАЄ ПОЛІПРАГМАЗІЮ

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На прикладі клінічного випадку розглядається поєднання проблеми поліморбідності та поліпрагмазії. Описані діагностика, постановка заключного клінічного діагнозу та рекомендації по модифікації способу життя та вибору оптимальної терапії у пацієнта з поліморбідною патологією.

КЛЮЧОВІ СЛОВА: поліморбідність, поліпрагмазія, раціональна фармакотерапія, якість життя, профілактика

ПОЛІМОРБИДНОСТЬ НЕ ПРЕДОПРЕДЕЛЯЕТ ПОЛИПРАГМАЗИЮ

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На примере клинического случая рассматривается сочетание проблемы полиморбидности и полипрагмазии. Описаны диагностика, постановка заключительного клинического диагноза и рекомендации по модификации образа жизни и выбора оптимальной терапии у пациента с полиморбидной патологией.

КЛЮЧЕВЫЕ СЛОВА: полиморбидность, полипрагмазия, рациональная фармакотерапія, качество жизни, профилактика

INTRODUCTION

Recent studies discuss the problem of medical care for patients with concomitant comorbidity and associated polypharmacy [1-3]. Accumulation of chronic diseases comes along with aging [4]. An interaction of diseases, involution processes in the body and effects of drug therapy significantly alter clinical picture, course of the disease, nature and severity of the complications; as well as worsens patient's quality of life [1].

Such terms as polymorbidity (polymorbid disease or polymorbid condition) and polypharmacy are often used in English scientific literature. Polymorbidity is defined as the existence of several chronic health disorders in one individual. Whereas, polypharmacy is a simultaneous appointment of drugs or medical procedures to patient, which often appears to be unjustified and irrational.

Polypharmacy in consequence with polymorbidity leads to a sharp rise in the

occurrence of systemic, adverse effects of medicines. Such unwanted side effects lead to new clinical symptoms. Unfortunately, doctors do not always take those symptoms into consideration, as they are often seen as symptoms of polymorbidity and not as effects of polypharmacy. Therefore, this leads to prescription of higher amount of medications [1, 5].

The importance of the problem of combination of polymorbidity and polypharmacy is shown in the given clinical case.

CLINICAL CASE

Man, 49 years old, economist, resident of urban area.

COMPLAINTS

For the past month patient complained of pain behind the breastbone without irradiation, occurring both during fast walk for up to 100 m and at rest; pain disappears within 10 minutes; shortness of breath of mixed character; periodic heartbeat, appearing without a clear connection with the provoking factors and disappears by itself ; recurrent headache of a compressive character in the temporal region that appears as a result of elevated blood pressure (BP) over 150/90 mm Hg; periodic dry cough in the morning; heartburn after heavy, spicy and fried meals; aching pain in the epigastrium, going away after an intake of liquid or warm food; numbness of 3-4 fingers mostly at night.

ANAMNESIS MORBI

Rise in blood pressure (BP) with maximum numbers 170/90 mm Hg from his youth (diagnosis: vegetative-vascular dystonia (VVD) of hypertensive type). Usual blood pressure - 140/90 mm Hg. He was treated in the outpatient department with antihypertensive drugs taken irregularly.

2012: Headache. Self-medication with analgesics (spasmalgon).

2014: Numbness of 3- 4 fingers. Patient did not seek for medical care.

8 Oct 2015: Patient felt pain behind the breastbone for the first time.

20 Oct 2015: Patient was admitted to hospital by administrative district with a preliminary diagnosis: Coronary artery disease (CAD): unstable angina (de - novo). Arterial hypertension (AH) stage II, 2 degree. Heart failure (HF) 0-1 stage. Very high risk.

Drug therapy: Nebivolol 5 mg, Atorvastatin 20 mg, Trimetazidine 35 mg, Bellalginum. Therapy was ineffective.

28 Oct 2015: Patient was sent to STPI «Central clinical hospital Ukrzaliznici» for the examination and selection of therapy in the cardiology department.

ANAMNESIS VITAE

Patient lives alone in an isolated apartment. He eats irregularly, does not follow a diet.

He had frequent pneumonia in childhood. Patient experiences acute respiratory infections (3-4 times a year).

Since 1995 - chronic bronchitis with exacerbations in spring and autumn period. In the period of exacerbation - the sputum was whitish. Self-medication.

2002 - Burn (head, hands, neck, torso) disease.

Since 2008 - decrease in visual acuity.

2014- health resort treatment in Mirgorod with a diagnosis of chronic gastritis. On gastroscopy - gastritis, acute duodenitis, deformation of duodenal bulb, gastroesophageal reflux. Patient was released from the health resort treatment with improvements, medication therapy was effective.

Patient denies viral hepatitis, tuberculosis, sexually transmitted diseases. Allergic anamnesis is not burdened. He smoked from 1983 to October 2015 - 1 pack a day (32 pack/years). No abuse of alcohol.

Hereditary history burdened by coronary heart disease and hypertension.

OBJECTIVE EXAMINATION

Patient's condition is satisfactory. He is active. Height - 178 cm, weight - 119 kg, body mass index (BMI) = 37,5 kg/m². Skin has scarring after burn disease (head, neck, arms, torso). Patient has hernial protrusion of the white line of the abdomen without evidence of infringement. Peripheral lymph nodes: submandibular, axillary and inguinal lymph nodes soft consistency, painless, moderately agile and not soldered to each other and the skin. Lobes of the thyroid gland are not palpable, the isthmus is palpated in the form of a uniform cross-strand smooth, 1 cm wide. Musculoskeletal system - marked tenderness at paravertebral points in the cervical-thoracic spine. There is a mild lung sound above lungs, vesicular breathing and single dry rales on the exhale in the lower parts in auscultation.

Activity of the heart is rhythmic, heart rate (HR) 60 beats/min. Heart sounds are muffled. BP is 130/80 mm/Hg on hypotensive therapy. Abdomen is enlarged. A moderate pain in the epigastric region on deep palpation is present. Liver sticks out below the rib cage for about 1.5-2 cm, painless. The spleen palpated 1 cm below the left costal arch. Pasternatsky's symptom is negative on both sides. Physiological functions: normal. No swelling.

LABORATORY AND INSTRUMENTAL TESTS

Complete blood count (CBC): relative lymphocytosis (39.1%), thrombocytosis (428 K/UL).

Urinalysis: figures are in the normal ranges.

Biochemical analysis of blood: figures are in the normal ranges.

Cardiac markers: Troponin I < 0.01µg/l, CK-MB – in the normal range.

Analysis of lipid: atherogenic index is increased (3.56 mmol/l); high blood triglyceride level (2.48 mmol/l)

ECG showed sinus rhythm, regular. Heart rate 51 beats/min. Violation of intraatrial conduction. Nonspecific intraventricular conduction disturbances. The syndrome of premature repolarization of the ventricles. Violation of repolarization processes on the postero-lateral wall of the left ventricle in the form of flattened or negative T wave.

Echocardiography: The heart cavity is not expanded, thickened myocardium, and zones of akinesia and hypokinesia was not found, valves are intact. EF – 75 %.

Coronary angiography (CA): right type of coronary blood supply. Diffuse atherosclerotic lesions and calcification of coronary arteries. 20 % occlusion of the left coronary artery and 40 % occlusion of the right coronary artery, 100 % occlusion of the circumflex artery.

Ultrasound of abdominal and retro-abdominal organs: diffuse changes of liver and pancreas parenchyma without magnification. Hepatosplenomegaly. Microcalculosis of kidneys.

Gastroscopy 2.11.15: gastroesophageal reflux, gastritis, deformation of the duodenal bulb, erosive duodenitis.

Gastroscopy 12.11.15 (after therapy): gastroesophageal reflux, deformation of the duodenal bulb.

Consultation of ophthalmologist: Angiopathy of the retina of 2 degrees.

Consultation of the surgeon: hernial protrusion of the white line of the abdomen without evidence of infringement.

Recommend tests: repeat CBC, daily monitoring of blood pressure, ECG dynamics, spirometry, x-ray chest, x-rays of the cervical-thoracic spine, gastroscopy with biopsy, esophageal pH monitoring, consult a pulmonologist, neurologist.

DIAGNOSIS

The underlying disease: Coronary heart disease: Acute coronary syndrome. Unstable angina (de-novo). Coronary angiography (16.11.15): Diffuse atherosclerotic lesions and calcification of coronary arteries. 20 % occlusion of the left coronary artery and 40 % occlusion of the right coronary artery, 100 % occlusion of the circumflex artery. Arterial hypertension stage III, 2 degree. Very high additional risk. 1-st stage of heart failure, 2nd functional class with preserved systolic function (EF=75 %).

Comorbid conditions: COPD. COB stage I-II? LF stage 0. Erosive duodenitis, deformation of the duodenal bulb. Chronic superficial gastritis. Gastro-esophageal reflux disease without esophagitis. Obesity 2 degree. Midline hernia without obstruction. Chronic kidney disease stage 0. Microurolitiasis. Osteochondrosis of the cervical-thoracic spine?

TREATMENT RECEIVED IN HOSPITAL

Nebivolol 2.5 mg in the morning, Clopidogrel 75mg, Enoxaparin 80mg 2 p/day, Atorvastatin 40 mg in the evening, Isosorbide dinitrate 10 mg 2 p/day, Pantoprazole 40 mg 2 p/day – 10 days, Famotidinum 40 mg in the evening - 10 days, De-Nol 240mg 2 p/day - 10 days, Almagel 1 tbsp 3 p/day - 10 days.

RECOMMENDATIONS

1. Lifestyle modification: lipid-lowering diet with restriction of refined carbohydrates, increase of the intake of vegetables and fruits (the patient has gastritis and gastro-esophageal reflux disease - stewed and baked), restriction of consumption of table salt, regular exercise, walks in the fresh air, physiotherapy aimed at reducing manifestations of osteochondrosis.

2. Drug therapy: Nebivolol is 1.25 mg in the morning (under the control of heart rate and blood pressure), Clopidogrel – 75 mg 1 time a day continuously, Rosuvastatin 10 mg 1 time

per day for a long time, Nitroglycerin (tablet or spray) as needed.

3. Surgical treatment: stenting of the circumflex artery.

On the background of optimally chosen therapy the patient's condition has stabilized, marked improvement of hemodynamic parameters.

CONCLUSIONS

When treating patients with polymorbid pathology, in order to avoid polypharmacy, it is suggested to prescribe a minimum quantity of pharmacological agents, avoiding mutually exclusive drugs; to apply only rational polytherapy and fixed combinations of drugs.

In the given clinical case polymorbidity is present, but it doesn't mean that there is a need for doctor to prescribe high variety of medications. We consider that it is important to focus first on a treatment of the primary cardiovascular disease, while related disease entities should be treated medically and through physiotherapy interventions (physiotherapy, massage, dietary recommendations) only if necessary. Furthermore, it is important to constantly take preventive measures aimed at avoiding progression and complications of those diseases.

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