

# Idiosyncratic reaction to contrast during angiography manifested by hyperthermia with sensorimotor aphasia

Idiosynkratyczna reakcja na kontrast podczas koronarografii pod postacią hipertermii oraz afazji czuciowo-ruchowej

Artur Łagodziński, Tomasz Górnik, Agnieszka Dębska-Kozłowska, Włodzimierz Grabowicz, Andrzej Lubiński

Department of Interventional Cardiology and Cardiac Arrhythmias, Łódź, Poland

## Abstract

The paper presents a case of 67-year-old man in whom coronarography was performed after positive exercise electrocardiography. During the angiography, extremely rare contrast reaction occurred. Within the next few hours patient's clinical condition deteriorated significantly, so that he required special and atypical treatment. Finally, the patient recovered completely without any neurological or other deficits.

Key words: coronarography, contrast reaction, adverse effects

Folia Cardiologica 2017; 12, 1: 78–80

Severe adverse effects after non-ionic contrast administration are very rare. It is estimated that these complications affect only about 0.031% of patients [1].

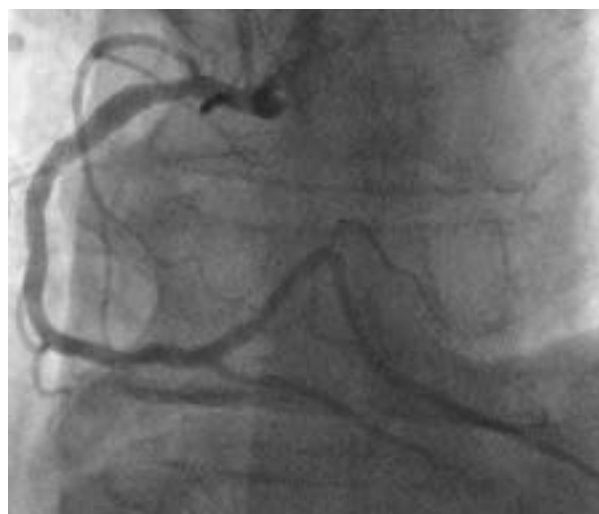
A 67-year-old man was admitted to the Department of Interventional Cardiology and Cardiac Arrhythmias due to long-term, recurrence retrosternal chest pain inducible by exercise. His medical history included hypertension, type 2 diabetes mellitus and an ischemic stroke that happened fourteen years ago without any residual effects. At admission the patient was in good general condition, his heart rate was regular at 70 bpm. Lung and heart sounds were clear, abdomen was soft and non-tender, with no organomegaly. He did not present any focal and generalized neurological symptoms. The resting electrocardiogram (ECG) revealed no abnormalities, without signs of acute or past ischemia. Markers of myocardial necrosis were negative.

To support the diagnosis of stable coronary artery disease, a non-invasive cardiac test – exercise ECG was conducted (Figure 1). Because of unclear result (ECG positive, clinical negative), we decided to perform a coronarography with nonionic, low-osmolality contrast – Iomeron 400. The examination showed normal vessels, without any significant stenosis (Figures 2, 3).

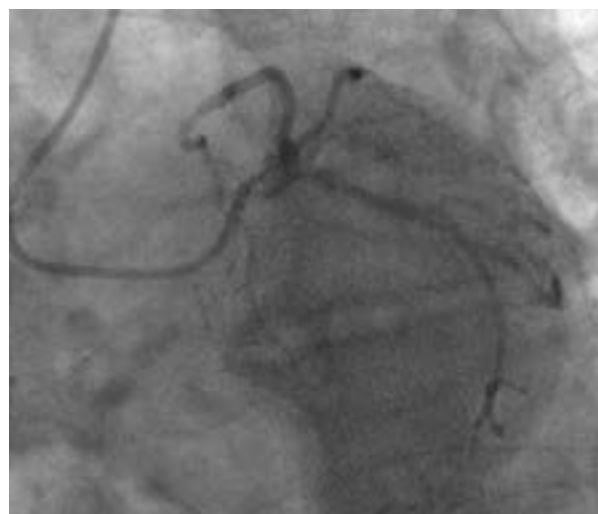
Fifteen minutes after the examination, sensory and motor aphasia without paresis occurred. Then, patient presented strong psychomotor arousal and consciousness disorders. Urgent computed tomography (CT) was performed and did not reveal any bleeding or ischemic area. Within next few hours a rapid increase of patient's body temperature (over 40 °C) was observed. Hyperthermia did not decrease after typical antipyretics. The mechanical cooling (wrap with ice bags, stomach and bladder rinsing



**Figure 1.** Exercise electrocardiography – ST-segment depressions in V5–V6 leads



**Figure 2.** Right coronary artery



**Figure 3.** Left anterior descending artery

with 0.9% saline solution) was necessary. Nootropic drugs, antibiotics, fluids, mannitol was administered. In control laboratory tests normal level of complete blood count (CBC), procalcitonin, C-reactive protein (CRP) and troponin T was noted. After ten hours since the first symptoms occurred, the body temperature dropped and aphasia diminished. Patient was hemodynamically stable with heart rate at 90 bpm and blood pressure of 150/90 mm Hg. The next morning full verbal and logical contact was

possible. Patient did not report any complaints. Control laboratory tests showed elevated CRP to 77.4 mg/L, alanine aminotransferase (AST) 71.5 U/L, potassium level 3.07 mmol/L. Microbiology blood tests were negative. Control magnetic resonance imaging (MRI) was performed and did not reveal any pathological changes. During the following days there was no recurrence of neurological disturbances. Additional neurological consultation was performed. Because of complete clinical manifestations

and no changes in CT and MRI, diagnosis of idiosyncratic reaction for contrast was recognized [2].

The presented case is a warning for clinicians that coronarography and other procedures in which contrast is used can be very dangerous for patients' health and even for their life. Despite the fact that such reactions are

really rare, we need to know what medical treatment and diagnostic tests should be performed immediately.

### Conflict of interest(s)

There was no conflict of interest found in the presented study.

### Streszczenie

W pracy zaprezentowano przypadek 67-letniego pacjenta, poddanego badaniu koronarograficznemu poprzedzonemu dodatnią elektrokardiograficznie próbą wysiłkową. Po badaniu angiograficznym u chorego wystąpiła niezwykle rzadko spotykana reakcja uczuleniowa na środek kontrastowy. W ciągu kilku godzin doszło do znacznego pogorszenia stanu klinicznego, który po zastosowaniu niestandardowego leczenia wycofał się, nie pozostawiając neurologicznych ani innych ubytków na zdrowiu.

Słowa kluczowe: koronarografia, reakcja kontrastowa, efekty uboczne

Folia Cardiologica 2017; 12, 1: 78–80

### References

1. Kinnison ML, Powe NR, Steinberg EP. Results of randomized controlled trials of low-versus high-osmolality contrast media. *Radiology*. 1989; 170(2): 381–389, doi: [10.1148/radiology.170.2.2643140](https://doi.org/10.1148/radiology.170.2.2643140), indexed in Pubmed: 2643140.
2. Uetrecht J, Naisbitt DJ. Idiosyncratic adverse drug reactions: current concepts. *Pharmacol Rev*. 2013; 65(2): 779–808, doi: [10.1124/pr.113.007450](https://doi.org/10.1124/pr.113.007450), indexed in Pubmed: 23476052.