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The clinical case of cardiac amyloidosis associated with multiple myeloma

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**Topic(s):**
Autoimmune/Chronic Inflammatory Disorders and Heart Disease

**Citation:**
Nowadays, amyloidosis is a group of diseases with diverse clinical signs characterized by extracellular deposition of insoluble pathological fibrillar proteins leading to development and progression of heart failure. Clinical manifestations are very diverse which leads to late diagnosis and the only method for determining the type of amyloidosis is a biopsy followed by histochemical research. We present a clinical case of cardiac amyloidosis associated with myeloma and confirmed by a morphological study. The case describes a 67-year-old patient complaining of irregular heartbeat, alopecia for 3 years and a 13 kg weight loss in the last 6 months. She suffered from acute myocardial infarction with complications: pulmonary edema, bilateral hydrothorax; peripheral edema. After 1 month she was hospitalized with blood pressure of 90/60 mm of mercury, hepatomegaly and peripheral edema. Blood analysis: hypoproteinemia. Urinalysis: Bence-Jones protein. Electrocardiography showed sinus tachycardia with a heart rate of 104 beats per min. In laboratory tests data for myeloma were obtained. Invasive coronary angiography was performed, no coronary atherosclerosis was detected. Magnetic resonance imaging showed both ischemic and non-ischemic (amyloidosis/ glycogenosis) damage in the background of myocardial degeneration (Fig. 1). An endomyocardial biopsy of the right ventricle was performed: positive periodic acid Schiff substance in the interstitium and in the endocardium, amyloid deposits are determined.

Based on all the data it was possible to verify the diagnosis of primary cardiac amyloidosis, probably of the AL type associated with myeloma. During therapy with beta - adrenergic blocker, ACE inhibitor, diuretics hydrothorax was stopped but hypotension, severe weakness, insomnia and lack of appetite persisted. The patient was transferred to the Department of Nephrology and chronic hemodialysis where bone marrow trepanobiopsy was performed and the diagnosis of myeloma and renal amyloidosis was confirmed. Hydrothorax and hydropericardium in the hospital recurred, weakness increased, cachexia, hypotension, pulmonary edema recurred. The patient died in the intensive care unit in two weeks.

This clinical case demonstrates the complexity of timely in vivo diagnosis of amyloidosis and the selection of adequate drug therapy which is associated not only with the limited ability to establish an accurate diagnosis and the lack of specific treatment in most cases but also with the late visit of patients for medical care. Thus, the development/ improvement of non-invasive screening methods of examination will allow to identify pathology at earlier stages with the possibility of selecting effective drugs and in some cases – heart transplantation.
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