




## From left ventricular hypertrophy to Waldenström macroglobulinemia: a case report

 **Kristina Selthofer-Relatić<sup>1,2\*</sup>**,  
 **Željka Breškić Ćurić<sup>3</sup>**,  
 **Maja Čikeš<sup>4</sup>**,  
 **Boško Skorić<sup>4</sup>**,  
 **Ivo Planinc<sup>4</sup>**,  
 **Davor Miličić<sup>4</sup>**

<sup>1</sup>University Hospital Centre Osijek, Osijek, Croatia

<sup>2</sup>Faculty of Medicine, University Josip Juraj Strossmayer Osijek, Osijek, Croatia

<sup>3</sup>Vinkovci General Hospital, Vinkovci, Croatia

<sup>4</sup>University of Zagreb School of Medicine, University Hospital Centre Zagreb, Zagreb, Croatia

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**\*ADDRESS FOR CORRESPONDENCE:** Kristina Selthofer-Relatić, Klinički bolnički centar Osijek, Josipa Huttlera 4, HR-31000 Osijek, Croatia. / Phone: +385-98-623-403 / E-mail: [selthofer.relati@gmail.com](mailto:selthofer.relati@gmail.com)

**ORCID:** Kristina Selthofer-Relatić, <https://orcid.org/0000-0002-9890-6489> • Željka Breškić Ćurić, <https://orcid.org/0000-0002-6077-4329> • Maja Čikeš, <https://orcid.org/0000-0002-4772-5549> • Boško Skorić, <https://orcid.org/0000-0001-5979-2346> • Ivo Planinc, <https://orcid.org/0000-0003-0561-6704> • Davor Miličić, <https://orcid.org/0000-0001-9101-1570>

**Background:** Left ventricular hypertrophy (LVH) is a common cardiac finding generally caused by an adaptation of the myocardium to increased pressure or volume load, or systemic conditions or genetic mutations<sup>1</sup>. Amyloidosis still remains a mysterious disease, with extremely diverse palette of symptoms and poor prognosis, caused by extracellular deposits of autologous proteins with a fibrillar ultrastructure and specific properties. According to anatomical and clinical criteria, it can be presented as systemic or localized type<sup>2</sup>.

**Case report:** 61-year-old male with history of dyspnea for two years, syncope relapse and mild hypertension was hospitalized. The main findings were lower voltage in ECG precordial leads, increased level of NT-proBNP, mild normocytic anemia, thrombocytopenia, accelerated erythrocyte sedimentation, elevated creatinine serum level and urine proteinuria. Transthoracic echocardiography showed LVH with restrictive diastolic pattern and typical strain finding for amyloidosis. Monoclonal gammopathy IgM type  $\lambda$  was approved by electrophoresis and immunoelectrophoresis. Abdominal CT scan showed appearance of paraaortic, retroperitoneal and mesenteric lymphadenopathy; lymphatic cells were found in the cytological punctate of the lymph node, while biopsy of fat tissue and rectal biopsy were negative. Heart MRI approved infiltrative heart disease, and heart biopsy deposits of amorphous material and Congo red staining was positive for amyloidosis. Waldenström macroglobulinemia with an unusual presenting of systemic amyloidosis and heart involvement was diagnosed.

**Conclusion:** LVH is most common echocardiographic finding although the cause itself is not always easy to find. This case shows a rare example of systemic amyloidosis associated with Waldenström's macroglobulinemia<sup>3</sup>. Modern diagnostic techniques are available with increased chance of diagnosing the rare diseases, but still the most important fact is to be aware of these conditions.

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### LITERATURE

1. Kubo T, Kitaoka H. Imaging of left ventricular hypertrophy: a practical utility for differential diagnosis and assessment of disease severity. *Curr Cardiol Rep.* 2017 Aug;19(8):65. <https://doi.org/10.1007/s11886-017-0875-5>
2. Penescu M. Amyloidosis, a mysterious disease, still underestimated. *J Med Life.* 2008 Apr-Jun;1(2):189-97. **PubMed:** <https://www.ncbi.nlm.nih.gov/pubmed/20108465>
3. Thakral B, Kanagal-Shamanna R. Systemic AL amyloidosis associated with Waldenström macroglobulinemia: an unusual presenting complication. *Blood.* 2016;127(1):168. <https://doi.org/10.1182/blood-2015-10-674895>