Cardiac Lymphoma: After the Hurricane

Marijana Tadic[1], Sabine Haßfeld[1], Burket Pieske[1,2,3], Martin Genger[1]

[1]Department of Cardiology, Charité-University-Medicine, Berlin 13353, Germany
[2]Deutsches Zentrum für Herz-Kreislauf-Forschung, Berlin 13353, Germany
[3]Department of Cardiology, Deutsches Herzzentrum Berlin, Berlin 13353, Germany

A 71-year-old male patient with symptoms and signs of right heart failure was presented. Echocardiographic examination revealed a large tumor mass infiltrating predominantly the right atrium (RA), tricuspid valve, and the right ventricle [Figure 1]. Thoracic computed tomography (CT) showed the involvement of the right atrial and right ventricular free wall as well as the interatrial septum and the floor of the left atrium and infiltration of vena cava [Figure 1a]. The diagnosis of a diffuse large B-cell lymphoma (DLBCL) was established by myocardial biopsy. Bone marrow infiltration was not detected. Three cycles of R-CHOP chemotherapy (rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisolone) were administered during the period of 4 weeks. Echocardiographic and chest CT follow-up after the third chemotherapy cycle showed a significant regression of the large tumor mass [Figure 1b].

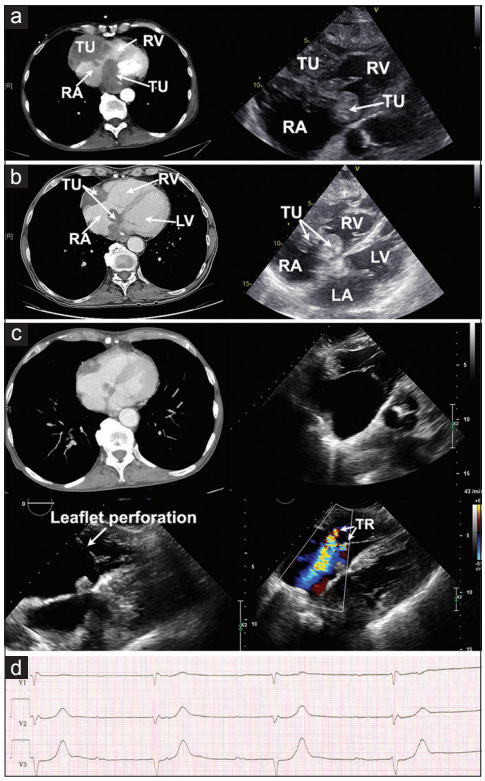

Figure 1: All transthoracic echocardiographic (subcostal) and computed tomography images of cardiac infiltration. (a) Computed tomography and echocardiographic findings at the presentation. (b) Findings after two cycles of R-CHOP chemotherapy (1 month after presentation). (c) Findings 18 months after initial admission. (d) Electrocardiogram performed 18 months after initial presentation of disease. LA: Left atrium; LV: Left ventricle; RA: Right atrium; RV: Right ventricle; TR: Tricuspid regurgitation; TU: Tumor.

During the following 6 months, the patient underwent additional two courses of rituximab treatment and three CHOP cycles. Subsequently, positron emission tomography-CT was performed, and a significant reduction in the heart infiltration was detected.

After 18 months of the initial presentation, the patient was admitted due to fatigue and dizziness, without symptoms and signs of right heart failure. Electrocardiogram revealed complete atrioventricular (AV) block [Figure 1d]. Echocardiography and CT showed minor residual infiltrative changes of AV sulcus [Figure 1c]. The new finding was a moderate tricuspid regurgitation (TR) due to the perforation of the anterior tricuspid leaflet. The patient received a permanent pacemaker due to complete AV block. An echocardiographic follow-up after 6 months confirmed moderate TR without changes in its severity.

Cardiac lymphoma often affects the RA. Complete AV block was described in several recent cases of cardiac lymphoma,[1,2] and it might be potentially explained by rituximab.[3] The unfavorable combination of mechanical

Address for correspondence: Dr. Marijana Tadic,
Department of Cardiology, Charité-University-Medicine,
Berlin 13353, Germany
E-Mail: marijana_tadic@hotmail.com

Access this article online

Quick Response Code:

Website: www.cmj.org

DOI: 10.4103/0366-6999.215345

Received: 12-07-2017 **Edited by:** Ning-Ning Wang
How to cite this article: Tadic M, Haßfeld S, Pieske B, Genger M. Cardiac Lymphoma: After the Hurricane. Chin Med J 2017;130:2391-2.

compression (infiltration) of tumor mass and chemotherapy was most likely responsible for AV complete block and tricuspid leaflet perforation.

Cardiac lymphoma is a very rare DLBCL manifestation. All DLBCL patients with cardiac involvement should be closely monitored because of potentially severe complications such as complete AV block or valve damage.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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