



## Swinging beats: transient heart block in cardiac lymphoma

J. W. Buikema<sup>1,2,3</sup> · W. R. Goodyer<sup>3</sup> · S. Koudstaal<sup>1,2</sup> · J. van 't Sant<sup>1</sup> · P. W. Verheggen<sup>1</sup> · E. A. de Vrey<sup>1</sup> · B. J. de Smet<sup>1</sup>

Published online: 23 July 2018  
© The Author(s) 2018

A 20-year-old man receiving chemotherapy for diffuse large B-cell lymphoma with vascular involvement presented to the emergency room with dyspnoea. Chest radiography showed left-sided pleural effusion and an enlarged cardiac silhouette. Transthoracic echocardiography demonstrated large circumferential pericardial effusion with a so-called swinging heart with inflow obstruction (Fig. 1a). Remarkably, the patient was bradycardic and follow-up electrocardiography (ECG) revealed a junctional escape rhythm. Symptoms resolved after pericardiocentesis and drainage of 1,100 ml pericardial fluid containing B cells. Despite the drainage, a junctional rhythm persisted and after 24 h of continuous ECG the patient was discharged. Several weeks later, drainage was repeated for recurring pericardial effusion. ECG then showed an atrial flutter with 2:1 conduction. While in remission, follow-up electrocardiograms showed various ectopic atrial foci rhythms before returning to sinus rhythm 6 months later (Fig. 1b). Cardiac involvement of lymphomas is not uncommon. However, when patients develop transient blocks or arrhythmias this can be life-threatening and require additional vigilance during management [1–3].

**Open Access** This article is distributed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made.

### References

1. Delmo Walter EM, Javier MF, Sander F, Hartmann B, Ekkernkamp A, Hetzer R. Primary cardiac tumors in infants and children: surgical strategy and long-term outcome. *Ann Thorac Surg.* 2016;102:2062–9.
2. Lal KS, Tariq RZ, Okwuosa T. Haemodynamic instability secondary to cardiac involvement by lymphoma. *BMJ Case Rep.* 2016; <https://doi.org/10.1136/bcr-2016-215775>.
3. Petrich A, Cho SI, Billett H. Primary cardiac lymphoma: an analysis of presentation, treatment, and outcome patterns. *Cancer.* 2011;117:581–9.

---

✉ J. W. Buikema  
[j.w.buikema-3@umcutrecht.nl](mailto:j.w.buikema-3@umcutrecht.nl)

<sup>1</sup> Department of Cardiology, Meander Medisch Centrum, Amersfoort, The Netherlands

<sup>2</sup> Department of Cardiology, University Medical Center Utrecht, Utrecht, The Netherlands

<sup>3</sup> Stanford Cardiovascular Institute, Stanford University School of Medicine, Stanford, CA, USA



**Fig. 1** **a** *Left* X-ray showing enlarged cardiac silhouette and predominantly left-sided pleural effusion. *Middle and right* Transthoracic echocardiography demonstrating large circumferential pericardial effusion with a so-called swinging heart with inflow obstruction. *RV* Right ventricle, *LV* left ventricle, *PE* pleural effusion. **b** Follow-up electrocardiograms showing various ectopic (atrial) foci rhythms before returning to sinus rhythm 6 months later

