A rare cause of Bachmann interatrial block

Jérôme Peyrou1, Chan-Il Park1, Mustafa Cikirikcioglu2, Dipen Shah1, and Hajo Müller*1,6

1Division of Cardiology, Geneva University Hospital, Rue Gabrielle Perret-Gentil 4, Geneva 1211, Switzerland and 2Division of Cardiovascular Surgery, Geneva University Hospital, Rue Gabrielle Perret-Gentil 4, Geneva 1211, Switzerland

*Corresponding author. Tel: +41 22 372 71 92; fax: +41 22 372 72 29, Email: hajo.muller@hcuge.ch

Primary cardiac lymphoma (PCL) is a rare malignancy, accounting for 1.3–2% of primary cardiac tumours. We report of a patient with a large PCL who presented with a very rare ECG: an advanced interatrial conduction disturbance of the Bachmann bundle highly suspicious to be due to tumour’s involvement of interatrial connections between both atria across the septum. Interaltrial block is defined on the surface electrocardiogram as prolonged P-wave duration >110 ms. Limb ECG leads (Panel A Supplementary data online, Video) showed interatrial block (280 ms). The P-wave can be notched when the conduction through the Bachmann bundle is only slightly delayed or can be biphasic with two components when the block is complete. The right atrium is thought to be activated normally and predominantly craniocaudally giving rise to the first positive component in inferior leads (marked by ↓, Panel A) followed by a delayed second negative component (marked by ↑, Panel A) thought to be generated by the left atrium being activated caudocranially through the lower inter-atrial conduction pathway, typically along the ostium of the coronary sinus.

Transthoracic (Panel B, asterisk = tumour) and transoesophageal (Panel C, asterisk = tumour, arrowhead = interatrial septum, arrow = tricuspid valve) echocardiography and CT (Panel D, arrow = tumour involving both atria and compressing the superior vena cava) are shown. Emergent cardiac surgery was performed due to an obstructive syndrome and showed a large lobulated tumour (Panels E and F). Pathological analysis showed diffuse large B cell lymphoma. The patient died due to severe cardiac and multiorgan failure 2 days later before any chemotherapy could be attempted.

Supplementary data are available at European Heart Journal – Cardiovascular Imaging online.