

# Intracardiac mass from Burkitt's lymphoma in an immunocompromised patient: a very rare form of presentation

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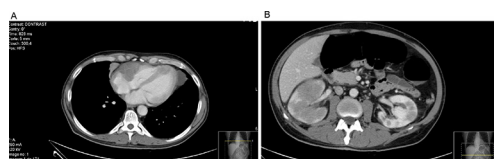
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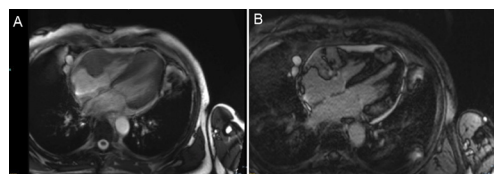
## DESCRIPTION

A 64-year-old man presented at the emergency department for lipothymia, nausea and palpitations for a few days duration. He was diagnosed with HIV infection 10 years ago. He never was compliant with his antiretroviral therapy (ART).

Pertinent physical findings included tachycardia and tachypnoea. Laboratory work-up revealed elevated troponin 0.30 ng/mL, elevated brain natriuretic peptide (PBNP) 4435 pg/mL and elevated creatinine 1.8 mg/dL with urea in normal range (40 mg/dL). Blood exams revealed CD4+ T cell count of 47 cells/ $\mu$ L with HIV RNA copies of 213 025/mL. The chest CT scan showed thickening of the lateral slope of the right cardiac cavities and atrioventricular septum, with involvement of the pericardial cavity; three pericardial ganglia close to the right atrium, the largest with 16 mm (figure 1A). The pelvic CT scan showed kidneys with small hyperdense, peripheral foci, predominantly on the right (figure 1B). Transthoracic echocardiography demonstrated heterogeneous echodense mass centred on the lateral wall of the right atrium, extending inferiorly to the atrioventricular sulcus and basal free wall of the right ventricle, with invasion of the posterior tricuspid valve leaflet (7.3 $\times$ 4.4 $\times$ 4.8 mm), extending to the pericardial space. A cardiac MRI revealed a second intramyocardial nodular lesion in the apical



**Figure 1** Chest CT scan demonstrating thickening of the lateral slope of the right cardiac cavities and atrioventricular septum. Intracardiac mass involving the pericardial cavity; three pericardial ganglia close to the right atrium, the largest with 16 mm.



**Figure 2** Cardiac MRI-cine four-chamber long-axis sequence showing an intracardiac mass visible on the right cardiac cavities and a second intramyocardial nodular lesion with 3 $\times$ 2.2 mm of dimension in the apical septal segment.

## Learning points

- ▶ Within the group of non-Hodgkin's lymphomas (NHL), Burkitt's lymphoma is one of the most aggressive subtypes. This is a rare disease in the general population, accounting for about 1% of all NHL. However, in patients with HIV, even with the advent of ART, their risk increases 200-fold.<sup>1</sup>
- ▶ Cardiac involvement of disseminated lymphoma is common; however, primary cardiac lymphoma is extremely rare. In fact, from data collected, <30 cases of intracardiac mass secondary to Burkitt's lymphoma are reported.<sup>2</sup> We must bear in mind that the cardiac symptoms are non-specific and can often be underestimated, leading to diagnostic errors. Given the aggressiveness of the cardiac tumour, its rapid progression can become life-threatening in a short time. Thus, any delay in diagnosis or treatment can decrease the chance of survival. We highlight the importance of early diagnosis and emphasise the presence of exuberant imaging alterations.
- ▶ There are multiple chemotherapy (CTX) protocols to treatment of adults' Burkitt's NHLs and usually an adaptation of children schemas. In our case, the patient was treated with Berlin-Frankfurt-Munster 95 protocol that includes association of anthracyclin, alkylating agents and high dose of antimetabolites drugs. There is now evidence of benefit of rituximab association to CTX in non-randomised and randomised trials and patients with Burkitt's lymphomas not associated to immunodeficiency and to B-cell NHLs in context of patients with immunodeficiency.<sup>3</sup>

septal segment (figure 2A,B). Biopsy of the right kidney was performed and histological findings revealed Burkitt's lymphoma. The patient started ART and chemotherapy (CTX) (Berlin-Frankfurt-Munster 95 protocol) associated to rituximab. In the fourth CTX cycle, there were no signs of the disease on the kidney and there was a significant decrease in the intracardiac masses.

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