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Biventricular Heart Failure and Severe Tricuspid Regurgitation in an HIV-Positive Patient with Pulmonary Hypertension and Pericardial Effusion: A case report

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INTRODUCTION

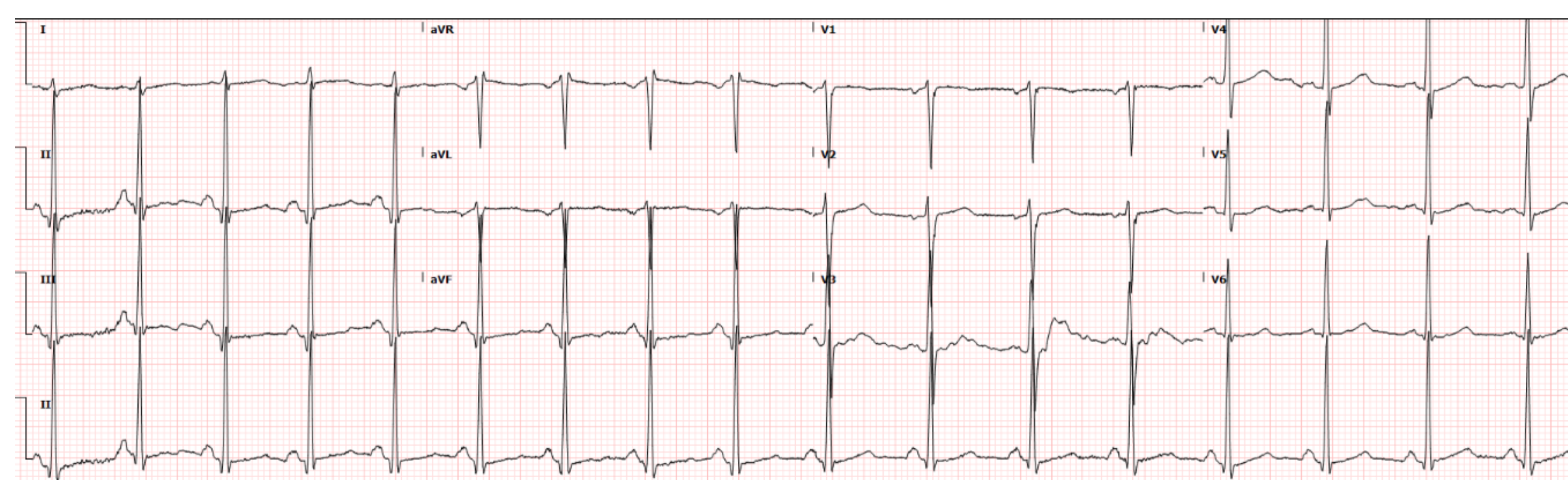
- HIV-associated cardiomyopathy are thought to be multifactorial including antiretroviral therapy (ART) induced, immunologic mechanisms, or HIV-induced myocardial damage associated with opportunistic infections. However, the mechanisms are uncertain.
- There are many cohort studies documented a developed dilated cardiomyopathy from asymptomatic HIV-positive individuals that can cause a high burden disease without treatment. Chronic inflammation and immune dysregulation may accelerate myocardial damage in these populations [1,2].
- We reported a case of HIV infection with poor ART adherence, syphilis, genital herpes developed heart failure, pulmonary hypertension, and pericardial effusion.

CASE PRESENTATION

- A 36-year-old male had a past medical history of cavitory lesion in left upper lung with interval disappearance 10 years without evidence of tuberculosis or neoplasm on biopsy. He also was diagnosed syphilis, genital herpes, HIV infected 5 years ago, and received treatment at the time of diagnosis but unknown follow-up as well as poor ART adherence for two years. He presented irritated mood, fatigue, chronic shortness of breath, orthopnea and abdominal pain.
- ECG showed normal sinus rhythm, tachycardia with non-specific ST-T changes. Echocardiogram revealed reduced left ventricular ejection fraction (LVEF) 30-35%, small to moderate pericardial effusion with no signs of cardiac tamponade, right ventricular severe dilation, very severe tricuspid

regurgitation(TR) with right ventricular systolic pressure(RVSP) 58 mmHg, severe pulmonary hypertension.

- We excluded pulmonary embolism via chest CT angiogram and negative coronary artery obstructions via coronary angiogram. Abdomen CT angiogram showed fatty hepatomegaly, ascites, mesenteric and retroperitoneal lymphadenopathy.
- Patient was placed on medications for his heart failure and pulmonary hypertension management. He was also reconnected with HIV care center for taking ART. And cardiothoracic surgery consultation recommended that the patient be transferred to tertiary care center for evaluation of TR repair, either with TriClip or surgical intervention.



Discussion

- This case highlights HIV-related cardiovascular pathology linked to viral-mediated myocardial injury, immune activation, and co-infections. Syphilis may exacerbate cardiac dysfunction through valvulitis or aortitis [3,4].
- ART nonadherence remains a central modifiable factor in preventing progression. Multidisciplinary approach is vital in complex cases with overlapping infectious and cardiovascular disease.

Conclusion

- Cardiac complications relate to HIV infection including heart failure, chronic pericardial effusion, severe tricuspid regurgitation, and pulmonary hypertension.
- ART nonadherence might contribute to rapid cardiovascular deterioration. Coordination of multidisciplinary care is essential for long-term management, especially in underserved populations.

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