

Case Report

Possible tricuspid endocarditis in a treatment defaulted retroviral positive patient with concomitant pulmonary tuberculosis

¹Sathiesha Padmasiri, ²M I Mujahieth

¹Postgraduate Institute of Medicine, University of Colombo, ²Colombo South Teaching Hospital

Key words: tricuspid endocarditis, retroviral, pulmonary tuberculosis

Corresponding Author: Sathiesha Padmasiri, E-mail: < sathiesha123@gmail.com >



<https://orcid.org/0000-0002-1894-972X>

Received: 02 May 2025, Accepted revised version: 04 Feb 2026, Published: 23 Mar 2026

Competing Interests: Authors have declared that no competing interests exist

© Authors. This is an open-access article distributed under a Creative Commons Attribution-Share Alike 4.0 International License (CC BY-SA 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are attributed and materials are shared under the same license.



Introduction

Right sided infective endocarditis (RSIE) is exceptional in non-intravenous (IV) drug abusers without previous heart diseases. Around 90% of RSIE involves the tricuspid valve. We present a case of a 45-year-old retroviral positive patient who defaulted anti-retroviral treatment, coming with pyrexia of unknown origin (PUO), ultimately diagnosed with tricuspid endocarditis in a morphologically normal native tricuspid valve. This case report highlights the importance of performing echocardiography for the early detection of infective endocarditis in patients with retroviral positivity. Few such cases have been published, and its diagnosis poses a significant clinical challenge due to the uncommon manifestations seen in tricuspid endocarditis.

Case presentation

A 51-year-old male patient with human immunodeficiency virus (HIV) infection, diagnosed 2 years back, presented with fever and generalized body malaise of 3 weeks duration. He reported high grade nocturnal fever spikes with chills and rigors. Constitutional symptoms such as loss of appetite, arthralgia and myalgia were also present. He also admitted unintentional weight loss of 5kg over 2 months. He had defaulted drugs and clinic follow up for HIV infection for 5 months. The patient had acquired retroviral

infection due to sexual promiscuity and had never used IV drugs or received blood transfusions.

As the patient was in septic shock with a low blood pressure of 90/60mmHg and tachycardia of 112 beats per minute, the patient was promptly resuscitated with IV fluids and empirically administered IV antibiotics, ceftriaxone 2g.

The initial investigation results are as follows (Table1)

Table 1: Investigation results obtained on admission

Investigation	Result	Reference range
White Blood Cells	16.37*10 ⁹ /l	4-11
Haemoglobin	9.2mg/dl	11-17
Platelets	269*10 ⁹ /l	150-400
Erythrocyte sedimentation rate	130mm/1 st hour	0-10
C-Reactive Protein	310mg/l	<5
Serum creatinine	142.7micromol/l	<100
Aspartate Transferase	26.2U/L	<50
Alanine Transferase	15.8/L	<50
Bilirubin Total	13.08μmol/l	5-21
Urine full report	Protein 3+ with granular casts With red cell casts	
UPCR	67.4mg/mmol	

Initial blood culture did not yield a growth and urine culture was also negative. The chest X-ray was normal. He underwent a USS neck which showed multiple small reactive lymph nodes. Ultrasound scan abdomen showed only features of bilateral swollen kidneys suggestive of acute kidney injury and small reactive intra- abdominal para-aortic lymph nodes. Since there were only non-pathological lymph nodes, lymphoma was not considered a differential diagnosis, which is otherwise considered a cause of PUO in HIV positive patients. Due to the high prevalence of tuberculosis (TB) in the region and the patient being immunocompromised, he was screened for TB. Two sputum samples were positive for acid fast bacilli and sputum was positive by gene expert, too. He was promptly started on anti-TB treatment with CD4 three tablets mane with pyridoxine 12.5mg nocte. Since the patient had defaulted anti-retroviral therapy he was later started on HAART therapy to mitigate the risk of immune reconstitution inflammatory syndrome (IRIS). The retroviral regime included TAF 25mg daily, dolutegravir 50mg bd and emtricitabine tenofovir 200mg nocte.

But the patient continued to have high spiking fevers which prompted us to find an alternative cause for his PUO. He underwent a transthoracic echocardiogram which showed an 8mm*3mm linear mass vegetation attached to the tricuspid valve with an ejection fraction of 60% with mild tricuspid regurgitation and mild mitral regurgitation (Figure 1). Blood culture was repeated thrice but did not yield a growth. Patient was started on IV vancomycin and IV ceftriaxone was continued following microbiology

opinion. The second transthoracic 2D echo performed after 2 weeks of antibiotics still showed a vegetation of the same size. The viral load of the patient was less than 30 copies/ml with a CD4 count of 178/mm³. Serial 2D echocardiograms were done and a persistent vegetation was seen in the tricuspid valve. Fever persisted for about 3 weeks. Towards the end of the fourth week of treatment, the fever spikes started to settle and the patient's biochemical parameters started to improve. The patient did not develop features of heart failure or acute decompensation of cardiac function anytime throughout the hospital stay. Patient was discharged on anti-TB treatment and antiretroviral treatment. The patient was observed to have gained weight and was clinically improved during subsequent clinic visits. He was fever-free and constitutional symptoms had subsided. He underwent a repeat 2D echo in 3 months and it was completely normal with no evidence of a vegetation and showed no residual disease or recurrence.

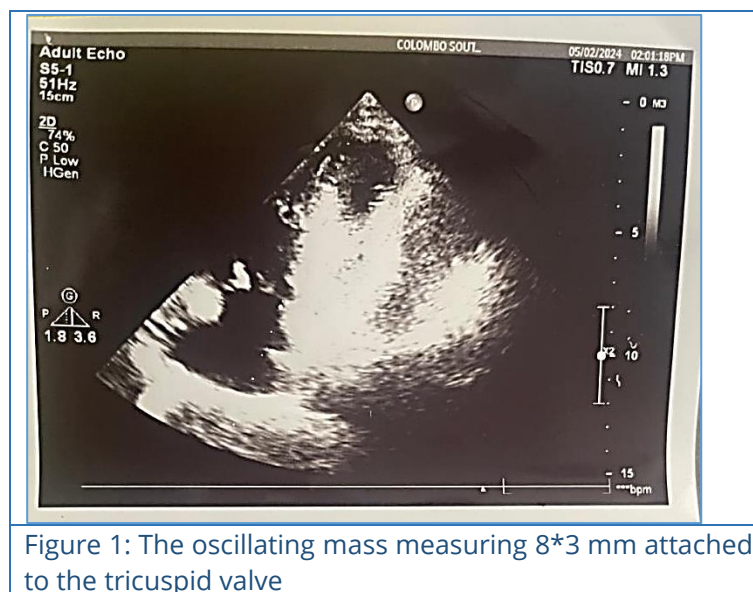


Figure 1: The oscillating mass measuring 8*3 mm attached to the tricuspid valve

Discussion

RSIE is quite uncommon and accounts for only 5%–10% of all IE cases [1]. It is usually encountered in patients with IV drug use (IVDU) or in those having indwelling intracardiac devices or central venous catheters. *Staphylococcus aureus* and viridans group streptococci were considered the most common microorganisms encountered in IE, but there has been an increase in the frequency of uncommon microorganisms in recent years. When skimming through the literature, tricuspid endocarditis has been reported more commonly in HIV positive IV drug abusers [2]. Our case highlights a patient with retroviral infection and native valve tricuspid endocarditis who is a non-IV drug abuser.

Delayed diagnosis of RSIE is common, particularly in non-IV drug addicts, because of the atypical presentation. The signs and symptoms are relatively different from left-sided IE and some patients lack traditional risk factors for IE such as predisposing cardiac lesions, previous IE, valvular heart disease or prosthetic heart valve, as was the case with our patient. The unique clinical presentation in RSIE often leads to misdiagnosis or

mistreatment, making the diagnosis an exception. Therefore, a strong clinical suspicion is necessary to establish a diagnosis, as the Duke diagnostic criteria for IE seldom support right-sided cases [3]. However, the 2023 European Society of Cardiology guideline has listed immunosuppression as a non-cardiac risk factor for IE. Our patient was diagnosed with HIV for 2 years and had a history of treatment default and had a relatively low CD4 count on admission.

While negative blood cultures are found in 10-50% of all IE patients, RSIE is frequently associated with positive blood cultures [3]. The most common scenarios for negative blood cultures in IE are previous antibiotic therapy, lack of optimal conventional culture techniques and lack of systemic investigation for fastidious agents [4]. Repeated blood cultures were sterile in our case, probably due to prior antibiotic usage as the management team was obliged to administer prompt IV antibiotics due to the patient being in septic shock on admission. With the patient being positive for pulmonary TB and the high incidence and prevalence of TB in Sri Lanka, tuberculous endocarditis was also a possibility in this case. But *Mycobacterium tuberculosis* valvular endocarditis is extremely rare [5] and mostly seen in the setting of miliary TB [6]. Therefore, tuberculous endocarditis was not a very plausible differential diagnosis in our patient.

According to the 2023 paper, Duke-International Society for Cardiovascular Infectious Diseases Criteria for Infective Endocarditis: Updating the Modified Duke Criteria, our patient fulfilled the criteria of “possible endocarditis” as he had 2D echocardiographic evidence of vegetation as a major criteria, and two minor criteria i.e. fever and renal involvement with glomerulonephritis [7]. Though renal biopsy was not performed, he had glomerulonephritis as evidenced by proteinuria and the presence of red cell casts in the urine full report and acute kidney injury with a serum creatinine of 160 µmol/l.

Hadi *et al* has published a case of RSIE in a non-IV drug abuser. This case further emphasises that RSIE can present with septic emboli [8]. Rajkarnikar *et al* from Nepal in their case report “Culture-negative tricuspid valve endocarditis in an intravenous drug abuser masquerading as pulmonary tuberculosis in Nepal” has highlighted a case similar to ours [9]. To the best of our knowledge, this is the first report of RSIE in a retrovirus positive non-IV drug abuser in Sri Lanka.

This case report underscores the importance of a vigilant lookout for RSIE even in non-IV drug abusers if the patient is an immunocompromised host.

References

1. Shmueli H, Thomas F, Flint N, Setia G, Janjic A, Siegel RJ. Right-Sided Infective Endocarditis 2020: Challenges and Updates in Diagnosis and Treatment. JAHA. 2020 Aug 4;9(15):e017293. <https://doi.org/10.1161/JAHA.120.017293>

2. Aljabery Y, Al Badarin F, Manla Y, Khalouf A, Khalil AM, Bhatnagar G, et al. Management of Patients With Tricuspid Valve Endocarditis and Ongoing Intravenous Drug Abuse. *JACC: Case Reports*. 2023 Mar;10:101751. <https://doi.org/10.1016/j.jaccas.2023.101751>
3. Yasar KK. Tricuspid Endocarditis and Septic Pulmonary Embolism in an Intravenous Drug User with advanced HIV Infection. *OMJ*. 2011 Sep 20;26(5):365-7. <https://doi.org/10.5001/omj.2011.90>
4. Topan A, Carstina D, Slavcovici A, Rancea R, Capalneanu R, Lupse M. Assesment of the Duke criteria for the diagnosis of infective endocarditis after twenty-years. An analysis of 241 cases. *Medicine and Pharmacy Reports*. 2015 Jun 19;88(3):321-6. <https://doi.org/10.15386/cjmed-469>
5. Shaikh Q, Mahmood F. Triple valve endocarditis by mycobacterium tuberculosis. A case report. *BMC Infect Dis*. 2012 Dec;12(1):231. <https://doi.org/10.1186/1471-2334-12-231>
6. Sultan FAT, Fatimi S, Jamil B, Moustafa SE, Mookadam F. Tuberculous endocarditis: valvular and right atrial involvement. *European Heart Journal - Cardiovascular Imaging*. 2010 May;11(4):E13-E13. <https://doi.org/10.1093/ejechocard/jep202>
7. Li JS, Sexton DJ, Mick N, Nettles R, Fowler VG, Ryan T, et al. Proposed Modifications to the Duke Criteria for the Diagnosis of Infective Endocarditis. *Clinical Infectious Diseases*. 2000 Apr 1;30(4):633-8. <https://doi.org/10.1086/313753>
8. Abdul Hadi AB, Bin Khairuddin K, Bin Ismail MN. RIGHT SIDED INFECTIVE ENDOCARDITIS MASQUERADING AS PULMONARY TUBERCULOSIS: A CASE REPORT. *MJMR*. 2022;06(01):14-8. <https://doi.org/10.31674/mjmr.2022.v06i01.004>
9. Rajkarnikar, Ruja et al. "Culture-negative tricuspid valve endocarditis in an intravenous drug abuser masquerading as pulmonary tuberculosis in Nepal: a case report." *Annals of medicine and surgery* (2012) vol. 85,3 523-527. 17 Feb. 2023, <https://doi.org/10.1097/MS9.0000000000000249>