

## Infective Endocarditis of Tricuspid Valve in a COVID-19 Patient

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Infective endocarditis involving the tricuspid valve is rare. It can be a serious complication of central venous catheterization. COVID-19 patients with ARDS require prolonged ICU stay where central venous catheterization are common procedures. Additionally, immunodepression and pro-thrombotic conditions encountered with these patients may be precipitating risk factors of infective endocarditis.

A 76-year-old female with a known history of hypertension and diabetes mellitus is admitted to our ICU for acute respiratory distress syndrome (ARDS) due to "SARS-Cov-2" infection. Chest computed tomography identified bilateral ground glass opacities with a crazy paving aspect.

The patient was intubated and protective mechanical ventilation was started. Central venous access was established. Specific treatment associating Hydroxychloroquine and Azithromycin was administrated.

Blood tests showed Hyperferritinemia (3350 ng/ml), elevated CRP (267mg/l), lymphopenia at 610 E/mm<sup>3</sup>, negative Procalcitonin (0.08 ng/mL, low troponin level (36,7 ng) and normal Brain natriuretic peptide (BNP) level (47 pg/mL).

Electrocardiogram was normal and Transthoracic echocardiography (TTE) revealed normal left ventricular (LV) dimensions with an increased wall thickness and an estimated LV ejection fraction (LVEF) of 55%. There was no evidence of heart valvular disease. Left ventricular diastolic function was mildly impaired with mitral inflow patterns, with an E/A ratio of 0.67.

On the 10th day of admission, the patient presented fever (39.2 °C) and hypotension (Blood pressure to 84/46 mmHg) and required vasoactive support. Blood cultures identified a Coagulase Negative Staphylococcus aureus.

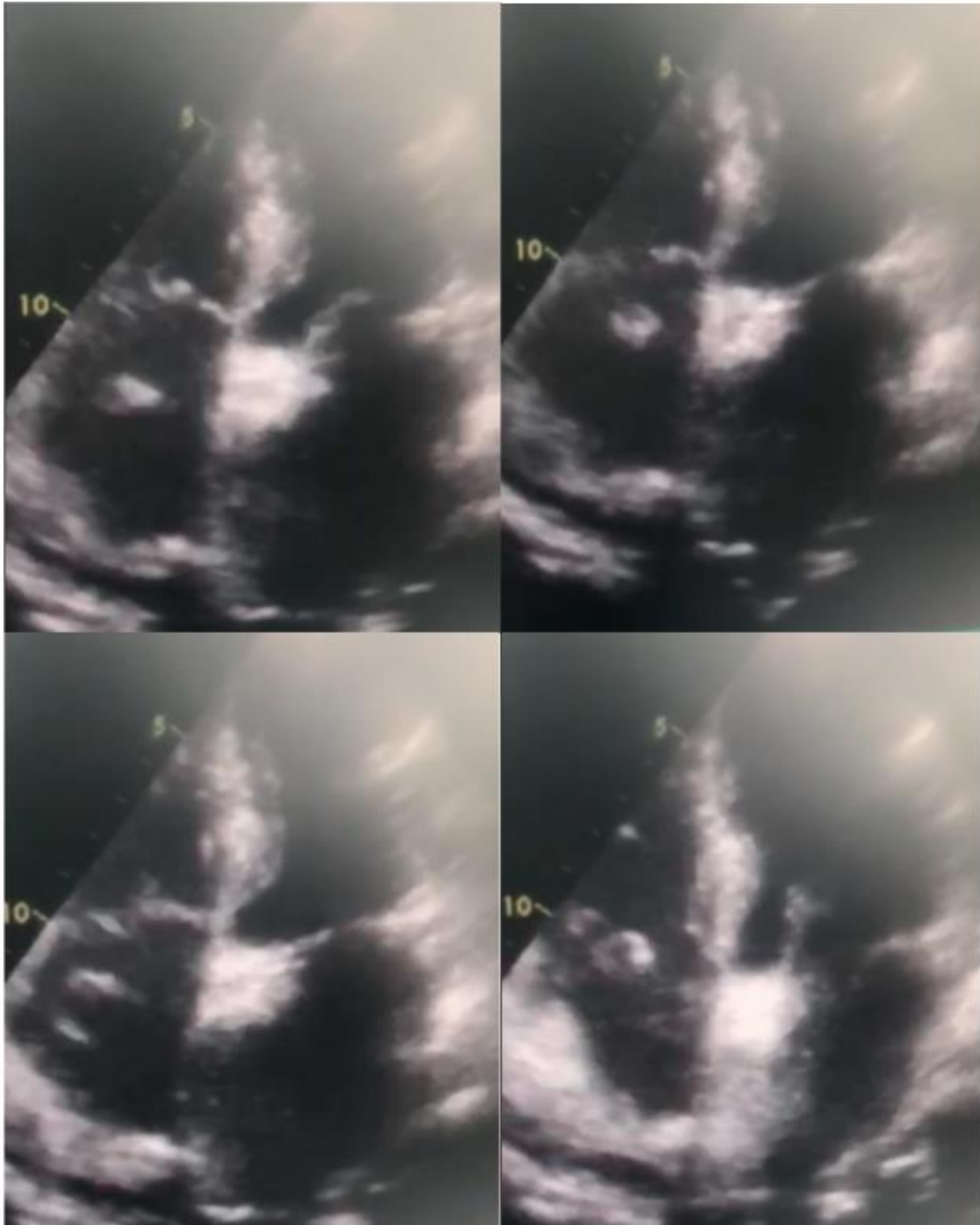
The TTE was performed once again (Figure 1) and this time showed a long slender oscillating mass with a serpentine movement attached to the anterior tricuspid valve leaflet chordate evoking an aspect of vegetation. There was a moderate tricuspid regurgitation with calculated right ventricular systolic pressure of 34 mmHg. No right or left ventricular dysfunction was noted.

After these findings, the diagnosis of Tricuspid valve endocarditis was evoked and we initiated antibiotherapy with Vancomycin 30 mg/Kg/day and Rifampicin 900 mg/day.

Clinical and biological improvement was noted, with progressive apyrexia and resolution of sepsis. Vasopressor support was no longer necessary after 5 days. On the 21st day of hospitalization, tracheostomy was performed, and weaning initiated. Ventilator support was no longer necessary after 5 days.

Transthoracic echocardiography, performed daily, revealed a reducing size of the vegetation and therefore surgery was not considered.

Long slender oscillating mass with a serpentine movement attached to the anterior tricuspid valve leaflet chordate evoking an aspect of vegetation.



**Figure 1:** TEE: Long slender oscillating mass with a serpentine movement attached to the anterior tricuspid valve leaflet chordate evoking an aspect of vegetation.

### Ethical approval

Informed consent was obtained from the patient's family for publication of this case report.

### Declaration of interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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