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Case Report

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Heart Transplant Indication in Acute Heart Insufficiency with COVID-19

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ABSTRACT

The report shows the evolution of a 29yr old woman who eas admitted to the hospitals because of her recent heart condition with pulmonary symptoms aswell. It was found that her COVID-19 tests were positive. As her evolution only worsened having kidney function aggravated it was decided that she had indication for a successful heart transplant. She has now 20 months of post-surgery and is being monitored by all clinical, la oratory and image exams thus being considered a successful case of serious and lifesaving heart condition due to COVID-19.

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Abbreviations

CRP: C Reactive Protein

ICU: Intensive Care Unit

LLM, 29 years old, female, student, seeks medical attention due to cough associated with dyspnea with small efforts beginning 5 days ago and edemas of lower limbs. She denies comorbidities or use of drugs of continuous use.

On Examination

Anicteric, acyanotic, dyspneic at rest with respiratory rate = 27 respiratory incursions per minute. Blood pressure = 120 x 60 mmHg; Heart rate = Pulse rate = 105 beats per minute. Follow-ups during hospitalization: regular heart rate, 2 strokes, normophonetic sounds without murmurs. Universally reduced audible vesicular murmur on bases with bilaterally crepitant rales and sparse snoring. Lower limbs with edema 1+/4+ to knees, free calves, preserved wrists.

Laboratory Tests

leukocytes: 6700 without deviations, CRP = 9.2, creatine phosphokinase = 267, CK-heart fraction (CK-MB) = 7.2, troponin I = 4, creatinine = 1.6, urea = 70, rapid test CRP positive for COVID-19.

Echocardiogram

Moderate left ventricular systolic dysfunction due to lower wall akinesia and mid-basal segments of the left ventricle septal wall. Ejection fraction = 40% (Simpson), pulmonary artery systolic pressure estimated at 19 mmHg.

Diagnostic Hypothesis

Severe COVID-19 infection with cardiac complications. The patient was transferred to the Intensive Care Unit (ICU) for noninvasive oxygen support and for clinical compensation with vasodilators and diuretics. She underwent coronary angiography that showed no coronary obstructions. This approach was failed due to worsening symptoms, signs of low output and worsening of renal function. Dobutamine was used up to 15 mcg/kg/min. Three days after weaning was started, but there was no success. Dobutamine was returned and the patient was listed for heart transplantation. She remained in the ICU for about 40 days and after optimization of oral therapy in the room for seven days, was discharged from the hospital using: Sacubitril + Valsartan 24/26 twice daily, Spironolactone 25 mg/day, Furosemide 40 mg/day, Carvedilol 25 mg/day.

In the last 20 months, the patient required seven hospitalizations for acute heart failure. All with positive inotropic need. She remains under outpatient follow-up, listed for transplantation. She repeated cardiac magnetic resonance imaging 16 months after the first infection which showed no differences.

Before being discharged from the ICU, cardiac magnetic resonance imaging performed. The description of the magnetic resonance imaging showed: moderate to important biventricular systolic dysfunction (Left Ventricle Ejection Fraction = 36%), findings that suggest an important sequela of an immunoinflammatory

event (myocarditis). The particular case cannot be excluded from the chance of heart transplant [1-5].

Conclusion

There are few cases of severe myocarditis after infection by the new Coronavirus, especially with no partial or total recovery of myocardial function and precise indication of heart transplantation.

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None.

Conflicts of Interest

No conflict of interest.

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