

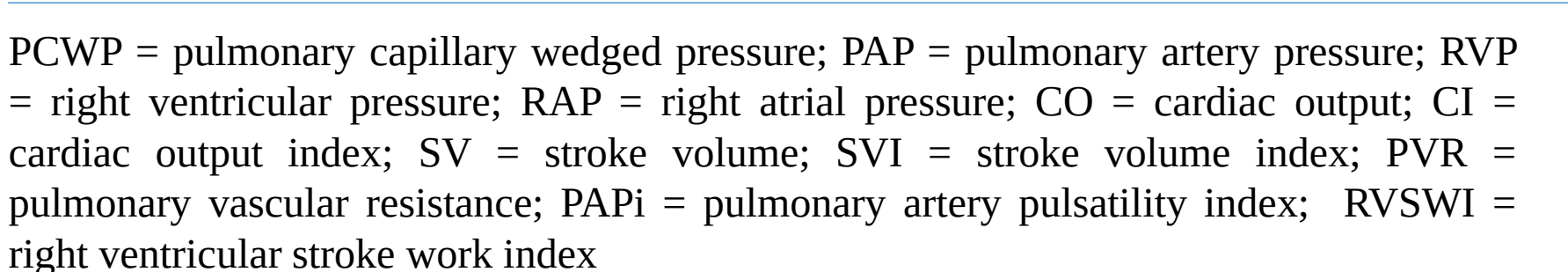
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Left ventricular assist devices (LVADs) are generally applied to advanced heart failure patients with spared right ventricular (RV) function. Therefore, patients with arrhythmogenic right ventricular cardiomyopathy (ARVC) who primarily present RV dysfunction are generally deemed ineligible for LVAD. We here report on a patient with advanced heart failure due to ARVC who successfully underwent LVAD implantation as bridge to transplantation.

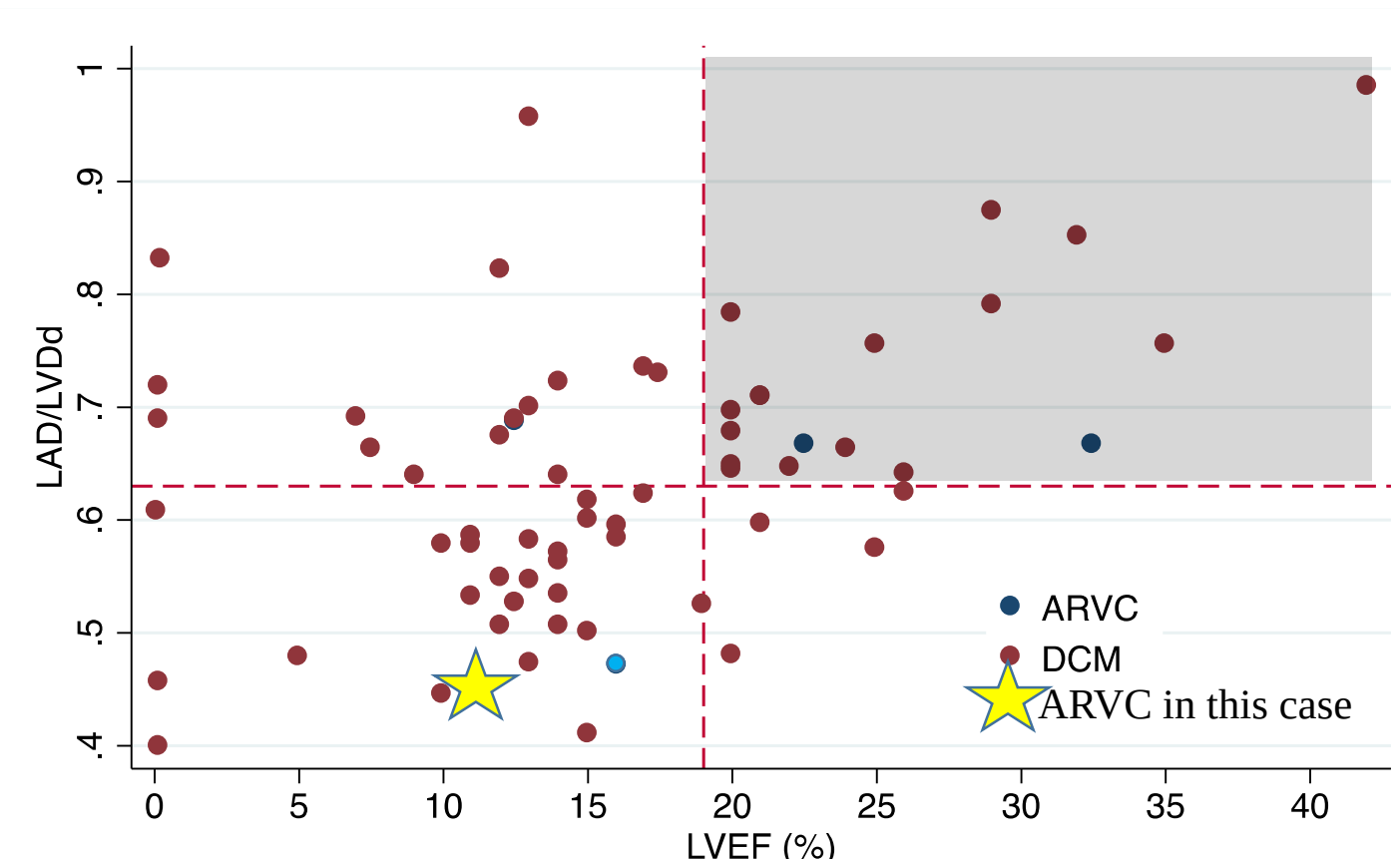
<u>History of present illness</u>	<u>Laboratory data</u>	<u>Echocardiogram</u>
1. Chief complaint 2. History of present illness 3. Past medical history 4. Social history 5. Family history	1. Complete blood count 2. Basic metabolic panel 3. Liver function tests 4. Urinalysis 5. Electrocardiogram	1. Left ventricular size and function 2. Right ventricular size and function 3. Aortic valve disease 4. Mitral valve disease 5. Tricuspid valve disease

EDV = end-diastolic volume; ESV = end-systolic volume; SV = stroke volume; CO = cardiac output

HM II	9000 rpm	9200 rpm	8800 rpm	8600 rpm	8400 rpm	Hemodynamic parameters
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- Preoperatively, we assessed the eligibility for LVAD implantation in current patient referring to the previous reports concerning right ventricular failure (RVF) after LVAD implantation (See below for predictors of post-LVAD RVF)¹⁻³.
- Data from ARVC cohort including current patient, and DCM cohort with successful LVAD implantation in our patient population were also assessed.
- In this case, CVP/PCWP ratio (0.66), RVSWI (189 mmHg/m2) and PAPI (2.17) were the highest in ARVC group, and LVEF (16%) was the lowest in ARVC. These hemodynamic parameters in this ARVC case are relatively similar to those with DCM group than those the other ARVC group.
- Michigan RV risk score (vasopressor use, creatinine, bilirubin and aspartate aminotransferase) for this patients was low (0 point).⁴ These parameters suggested high possibility for the patient to be supported by the only LVAD.
- Given these result above, we decided for this ARVC patient to undergo LVAD implantation.



Vertical line in (A) divides patients in patients with RVSWI ≤ 300 mmHg or not; horizontal line divides patients in patients with CVP/PCWP ≤ 0.63 or not. Vertical line in (B) divides patients in patients with RVSWI ≤ 300 mmHg or not; horizontal line divides patients in patients with PAPI ≤ 2.00 or not. Vertical line in (C) divides patients in patients with LVEF $\leq 19\%$ or not; horizontal line divides patients in patients with LAD/LVDD ≤ 0.63 or not.

This case report illustrated that the patient with advanced heart failure due to ARVC could be candidate for LVAD therapy. When considering LVAD therapy for ARVC, we should evaluate a combination of hemodynamic and clinical variables of patients.

None

- 1) S J Thorac Cardiovasc Surg. 2010; 139(5):1316-24.
- 2) J Heart Lung Transplant 2016;35:67-73.
- 3) Am J Cardiol. 2012; 109(2):246-51.
- 4) J Am Coll Cardiol. 2008; 51(22):2163-72.
