

Cardiac Resynchronization Pacing Therapy (CRT-P)

CRID 10.1

Asynchrony of electrical activation of different portions of the ventricles results in dyssynchrony of mechanical contraction leading to decreased efficiency of pump function. The cardiac resynchronization pacing device synchronizes electrical activation through a right ventricular lead and a lead inserted into a branch of the coronary venous system for left ventricular activation².

Clinical decision-making for cardiac resynchronization pacing therapy includes consideration of an individual's risk of worsening symptomatic heart failure and the anticipated likelihood of favorable clinical response to cardiac resynchronization therapy balanced against short-term procedural risks (e.g. cardiac tamponade and contrast-mediated acute kidney injury) as well as long-term device-related risks (e.g. thrombosis and infection)^{2, 6, 7}.

Randomized controlled clinical trials and systematic reviews of these trials provide valuable information to guide optimal selection of candidates for cardiac resynchronization pacing therapy. For instance, the benefit-risk assessment for cardiac resynchronization pacing therapy is favorable for individuals with left ventricular ejection fraction less than 50% who require frequent ventricular pacing greater than 40% of the time. Conversely, the benefit-risk assessment for cardiac resynchronization pacing therapy is NOT favorable for individuals who have better left ventricular ejection fraction or who do not require ventricular pacing or require ventricular pacing only infrequently^{3, 4, 5}.

Indications for cardiac resynchronization pacing therapy are based on well-established clinical medical specialty organization evidence-based guideline recommendations and Appropriate Use Criteria^{1, 2, 6, 7}.

References

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