

Title: AdaptResponse: AdaptiveCRT Algorithm in Synchronized LV Pacing

Participants: Dr Bruce Wilkoff

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Dr Bruce Wilkoff

"- Hi, my name is Dr. Bruce Wilkoff, I'm the Director of Pacing at the Cleveland Clinic in Cleveland, Ohio, and I was the principal investigator for the AdaptResponse trial.

Trial Background

The background to the AdaptResponse trial is that we have CRT that can be delivered both with adaptive response or with biventricular stimulation. And it was our intent to study whether we could improve that outcome by using adaptive mechanisms.

Study Design and Patient Population

So the patients involved in the AdaptResponse trial were designed to be highly responsive to CRT therapy. We took patients with adjudicated left bundle branch block and function class two or three heart failure. These are patients that are expected to respond well to CRT trial. And then we took those patients and we randomised them between the adaptive algorithm and standard CRT therapy. This is by far the largest trial of CRT pacing. It is larger than all the other prior studies combined and has a longer follow up than all the other trials as well. So this is a very large trial and a very prolonged follow up.

Key Findings

The key findings were that adaptive pacing produced the very best outcomes we've ever seen in a heart failure population, followed for longer than any other trial, and provided for the best survival and the lowest mortality. Unfortunately, even after eight years from the first randomization to the last follow up, we failed to produce an 18% reduction in the outcome, but we did find 11% reduction, which was not statistically significant. But we were able to take those patients that had adaptive mechanisms and

that were very highly LV paced and have found that those patients did 24% better than the patients with traditional CRT pacing.

Impact of Findings on Patient Care

Well, the first thing that we should think about when we interpret this data is that this is the population that CRT was intended to work for, and it works really well. And when applied to this population, we got the very best outcomes. So whatever competitive therapies there are, this is the therapy that should be benchmarked against. This is long-term follow up. We had a median follow up of 59 months and we had very excellent results. So this is the therapy for these patients, and competitive therapies are going to need to benchmark against this kind of therapy. In addition, we know that patients with left bundle branch block, which are the prime source of patients for CRT, really do need to get CRT. There are a lot of other therapies out there, but for left bundle branch block patients, this therapy is unmatched.

Next Steps

Well, the next steps is we have to delve more deeply into this very rich database. One of the really interesting parts of this study is that we had 43% women randomised in this trial, by far the largest number of women. So we have various demographics that are very broadly based. It's worldwide, we're talking about 27 countries, over 270 centres, 3,617 patients that were enrolled in the longest follow up. So we're very excited to delve really closely into this data. I think one of the things that we're going to really be interested in looking at is this percent adaptive pacing, I think that's a really interesting finding and that we're going to have to really sneak into that a little bit further.”