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Letter to the Editor / Editöre Mektup

THE IMPORTANCE OF ECHOCARDIOGRAPHY AND INVASIVE OPTIMIZATION IN CARDIAC RESYNCHRONIZATION THERAPY

KARDİYAK RESENKRONİZASYON TEDAVİSİNDE EKOKARDİYOGRAFİ VE İNVAZİV OPTİMİZASYONUN ÖNEMİ

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Dear Editor,

We read with great interest the study by Corut Guzel et al. titled "Comparison of Doppler Echocardiographic and Invasive Hemodynamic Methods for Optimization of Patients Receiving Cardiac Resynchronization Therapy" (1), provides valuable insights. In this single-center study involving 40 patients individuals who had received cardiac resynchronization therapy (CRT-D), comparing CRT optimization with invasive and echocardiographic methods. As a result, in invasive group clinical response was observed in 70% of patients, an ejection fraction response was observed in 70%, and in echocardiographic optimization group responses were 45% and 60%, respectively. There was no statistically significant difference between two groups.

In this study there was no control group. Including a control group with no optimization and with baseline device settings may answer this question: “Is routine optimization necessary for all CRT-D patients” and may show us the specific role of optimization just for nonresponder patients. Because the study’s reported response rates are similar to those generally observed with CRT-D therapy without optimization alone (2,3). If no significant difference had been found between the optimized and control groups, it might have suggested that optimization should be considered not at the time of implantation but rather in patients who fail to respond adequately to the device over time. Since optimization is a time-consuming process, performing it in selected patients could be more practical and efficient.

In addition, it would have been beneficial for the study to report pacing percentages during device follow-up in patients who showed clinical improvement, and to discuss the presence or absence of leads in scarred myocardial regions. Lead placements are also important as device settings. Furthermore, referencing the ESC device guideline recommendations in the discussion section would have strengthened the study. For instance, the 2021 ESC Heart Failure Guidelines (4) mention the following: "The value of trying to optimize AV intervals or interventricular delay intervals (VV intervals) after implantation using echo- or electrocardiographic criteria or BP response is uncertain but may be considered for patients who have had a disappointing response to CRT." There is no strictly indicated recommendations for this issue.

Despite these limitations, conducting such a complex and labor-intensive study involving both invasive and echocardiographic optimization in a single center with 40 patients is highly fascinating and commendable.

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REFERENCES

1.Guzel HC, Sade LE. Comparison of Doppler Echocardiographic and Invasive Hemodynamic Methods for Optimization of Patients Receiving Cardiac Resynchronization Therapy. Eskisehir Med J. 2025; 6(2):100-6.
2. Birnie DH, Tang AS. The problem of non-response to cardiac resynchronization therapy. Curr Opin Cardiol 2006; 21(1): 20-6.
3. Glikson M, Nielsen JC, Kronborg MB, et al. 2021 ESC Guidelines on cardiac pacing and cardiac resynchronization therapy. Eur Heart J 2021; 42(35): 3427-520.
4. McDonagh TA, Metra M, Adamo M et al. 2021 ESC Guidelines fort he diagnosis and treatment of acute and chronic heart failure. European Heart Jorunal. 2021;42:3599-726.

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