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Postimplantation Activity Restrictions and Shoulder Dysfunction After Pacemaker Implantation

LETTER TO THE EDITOR

To the Editor,

We read with great interest the study by Ata et al[1] entitled "Comparison of Kinesiophobia, Upper Limb Function, and Grip Strength in Patients with Pacemakers and Coronary Artery Disease." The authors should be congratulated for addressing an underrecognized aspect of long-term care after pacemaker implantation. Particularly noteworthy was the selective limitation in ipsilateral shoulder internal rotation among pacemaker recipients, despite the absence of significant differences in other range-of-motion parameters, upper-limb function, or handgrip strength.[1]

As the authors emphasize, patients are often advised to limit shoulder elevation and avoid strenuous or repetitive use of the ipsilateral arm during the initial recovery period, while immobilization may also be employed.[1] However, Miracapillo et al[2] demonstrated in a randomized study that mobilization 3 hours after pacemaker implantation, compared with 24-hour immobilization, was not associated with a significant increase in lead- or pocket-related complications.

Postimplantation management may also influence subsequent shoulder function. Daniels et al[3] randomized patients undergoing cardiac rhythm device implantation to standard postimplantation instructions or a structured shoulder exercise program. At 1 month, shoulder pain or discomfort occurred in 7 of 21 patients receiving standard care compared with 1 of 23 patients in the exercise group ($P = .02$), with no activity-related complications. These findings support the possibility that post-procedural mobility and rehabilitation strategies may influence later shoulder outcomes.

In this context, an important issue in the study by Ata et al[1] is that postoperative management is not reported. Although pacemaker implantation had been performed at least 6 months before enrollment, it remains unclear whether patients were instructed to restrict ipsilateral shoulder movement, whether immobilization was used, how long such restrictions were maintained, or whether rehabilitation was recommended. This is particularly relevant because the authors themselves acknowledge that persistent avoidance of ipsilateral arm use may contribute to soft-tissue stiffness and adhesive capsulitis.[1]

The authors propose that anatomical proximity of the pacemaker pocket to the pectoralis major and subscapularis muscles may contribute to local fibrosis and altered movement patterns, potentially explaining the selective internal rotation limitation.[1] While plausible, postoperative activity restrictions and rehabilitation may also contribute to this finding. Therefore, without information on postimplantation management, distinguishing device-related effects from potentially modifiable consequences of postoperative care may be difficult. We believe this should be considered an additional limitation, and future prospective studies incorporating the type and duration of activity restrictions and rehabilitation strategies may help clarify the mechanisms underlying shoulder dysfunction after pacemaker implantation.

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