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**Remote device monitoring for implantable cardioverter defibrillators during the COVID-19 pandemic**

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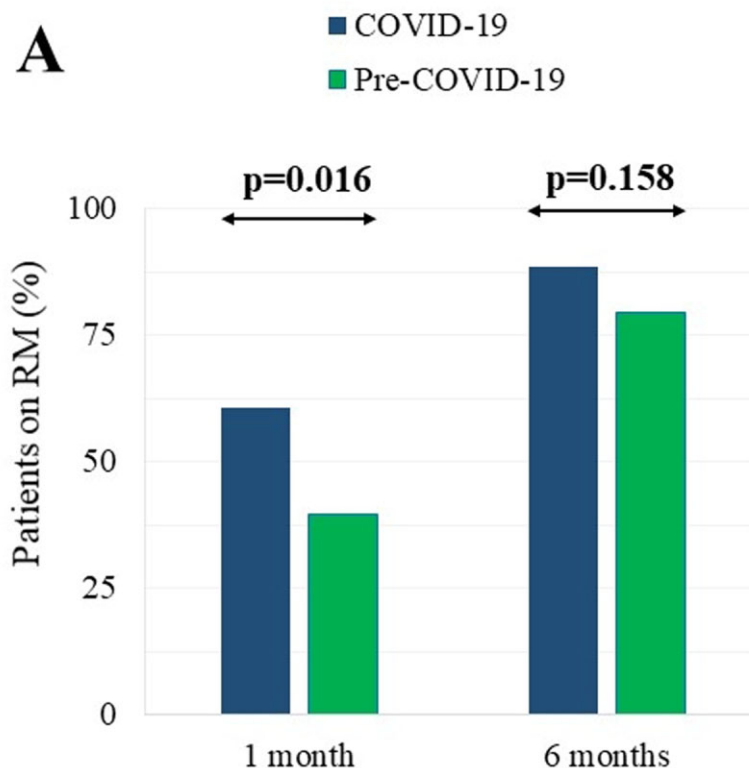
**Background:** Remote monitoring (RM) for implantable cardioverter defibrillators (ICDs) is recommended as the standard of care in clinical guidelines. Presumably, the restrictions on face-to-face visits that were imposed during the coronavirus (COVID-19) pandemic have further accelerated the adoption of RM. However, quantitative real-world data on the uptake of RM during the COVID-19 pandemic is lacking.

**Purpose:** To assess the uptake of RM during the COVID-19 pandemic to a pre-COVID-19 period, and compare the arrhythmic burden between the two groups.

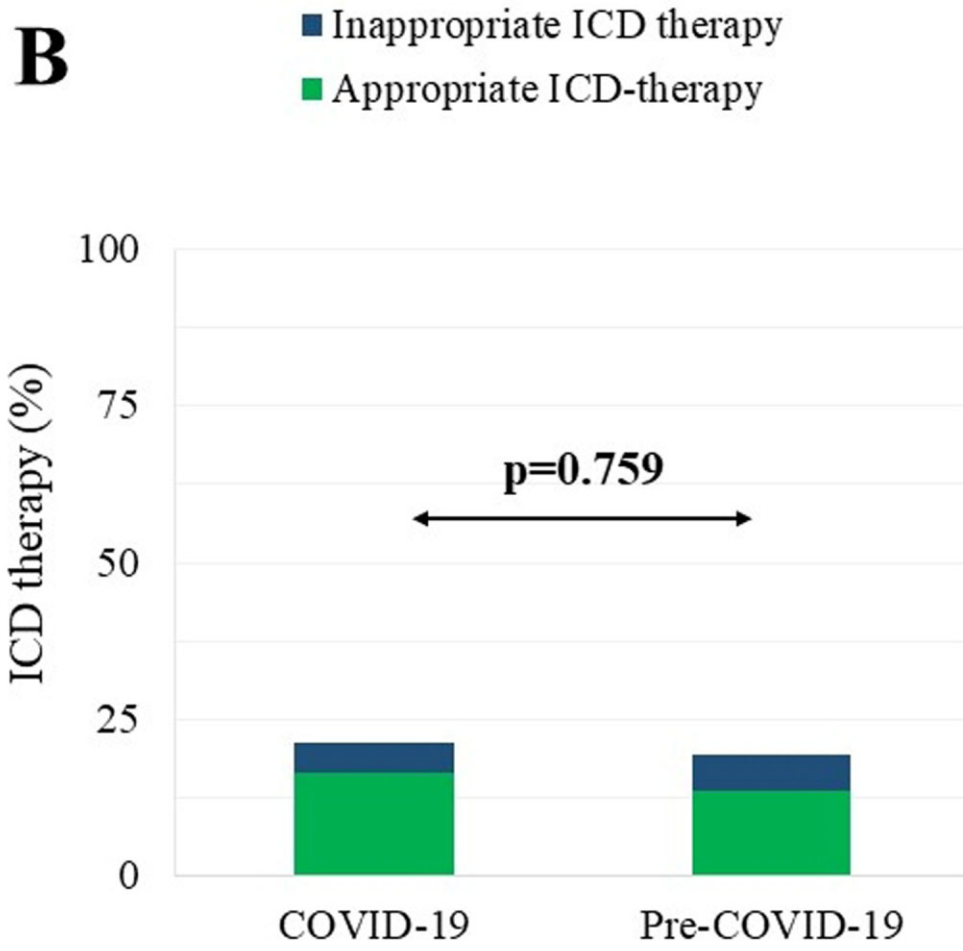
**Methods:** This is a substudy of the retrospective, observational single-center DISTANT-study. For this substudy, data from patients who were enrolled in the RM program after de novo ICD implantation (single- and dual chamber, biventricular or subcutaneous ICDs) were analysed. The time until RM was initiated per patient was calculated for patient implanted during the COVID-19 pandemic (March 2020-January 2021) and compared to a similar 10-month period pre-COVID-19 (May 2019-March 2020). ICD therapy (shock and/or anti-tachycardia pacing), non-sustained ventricular tachycardia (NSVT), supraventricular tachycardia (SVT) and mortality were registered for each patient. Patients <18 years old at implantation and patients with a follow-up of <6 months were excluded from this analysis.

**Results:** A total of 134 patients (72.4 % male, mean age 57.3 ± 14.9 years) were eligible for this substudy, of which 61 patients in the COVID-19 group and 73 patients in the pre-COVID-19 group. In both groups there was a similar percentage of primary prevention ICD implantations (COVID-19: 43%, pre-COVID: 44%; p=0.888). During COVID-19, RM was initiated more promptly following ICD implantation compared to pre-COVID-19 (respectively 63 days vs. 131 days; p=0.007). Second, in the COVID-19 group 60.7% patients were enrolled in RM within 30 days following implantation compared to 39.7% in the pre-COVID-19 group (p=0.016). In terms of arrhythmic burden, no differences in the occurrence of ICD therapy (p=0.759), NSVT (p=0.267) and SVT (p=0.454) were observed.

**Conclusion:** During the COVID-19 pandemic RM was initiated more promptly following ICD implantation compared to before the pandemic, however, no differences in arrhythmic burden between groups were observed.



Uptake remote monitoring during COVID-19



ICD therapy during 6 months follow-up