

## Our experience with pulmonary vein isolation using irreversible electroporation - "pulsed field ablation"

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Pulsed field ablation or irreversible electroporation is a newer method in the ablation treatment of cardiac arrhythmias. The first atrial fibrillation ablation procedure using pulsed electric fields at the Department of Arrhythmias, University Hospital Centre "Sestre milosrdnice", was successfully performed in September 2023. By July 2024, a total of 74 patients successfully underwent pulsed electric field ablation. Of these, 59.46% had paroxysmal atrial fibrillation, while 40.54% had persistent atrial fibrillation. In 100% of patients, the desired acute outcome was achieved by isolating the entrances of all pulmonary veins. Follow-up showed atrial fibrillation recurrence in 13.5% of patients, comparable to data from the literature.<sup>1</sup> Patients from various age groups underwent the procedure, the average age of women is 59 years and of men 68 years. Regarding gender distribution, men predominate (74%), consistent with global trends, which can be explained by the fact that women are referred for ablation treatment later in life.<sup>2</sup> The procedure lasted an average of 48 minutes and 22 seconds. The overall complication rate was 10%, with most being vascular - hematoma or prolonged bleeding at the puncture site, which required only conservative treatment, such as prolonged compression (up to 12 hours). An A-V fistula requiring surgical treatment occurred in 1.3% patient. For the successful treatment of atrial fibrillation patients, timely detection is crucial, as early-stage treatment offers the highest success rate (up to 80%). Pulsed electric field ablation, as a new method, represents a significant step forward in the treatment of atrial fibrillation, which will improve the quality of patient care. In this paper, we presented the experiences at the University Hospital Center "Sestre milosrdnice" in applying this new treatment method, showing that our results are comparable to those from other electrophysiology centers. It is important to emphasize that role of nurse is essential. Together with doctor, she provides healthcare during hospitalization.<sup>3</sup> Our experiences with pulsed electric field ablation in the treatment of atrial fibrillation have been extremely positive. Due to the fact that this is a highly effective procedure with a low rate of procedural complications.

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### LITERATURE

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