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RESEARCH AREA

My main research area is cardiac electrophysiology, with a highlight on catheter ablation treatment of atrial fibrillation (AF). AF is the most common sustained rhythm disorder, the invasive therapy of which is much more effective than drug treatment, but its effectiveness falls short of that of other arrhythmias. Accordingly, further developments and the evaluation of new techniques' effectiveness and safety are essential. Currently, I am mainly interested in high-energy radiofrequency ablation and electroporation.

TECHNIQUES AVAILABLE IN THE LAB

"The opportunity to get involved in the research described above, to actively participate in it. In this connection, participation in the planning and execution of clinical trials, statistical analysis of the results, and the correct interpretation of the obtained results can be learned. In addition, the mentored student can gain insight into the world of invasive electrophysiological testing and catheter ablation and participate in ablation procedures at the Városmajor Heart and Vascular Center."

SELECTED PUBLICATIONS

Orbán G., Salló Z., Perge P., Ábrahám P., Piros K., Nagy KV., Osztheimer I., Merkely B., Gellér L., **Szegedi N.** (2022) Characteristics of Very High-Power, Short-Duration Radiofrequency Applications. *Front Cardiovasc Med* **9**: 941434.

Szegedi N., Salló Z., Perge P., Piros K., Nagy VK., Osztheimer I., Merkely B., Gellér L. (2021) The role of local impedance drop in the acute lesion efficacy during pulmonary vein isolation performed with a new contact force sensing catheter-A pilot study. *PLoS One* **16(9)**: e0257050.

Szegedi N., Széplaki G., Herczeg S., Tahin T., Salló Z., Nagy VK., Osztheimer I., Özcan EE., Merkely B., Gellér L. (2019) Repeat procedure is a new independent predictor of complications of atrial fibrillation ablation. *Europace* **21(5)**: 732-737.

Szegedi N., Vecsey-Nagy M., Simon J., Szilveszter B., Herczeg S., Kolossváry M., Idelbi H., Osztheimer I., Klaudia Nagy V., Tahin T., Széplaki G., Delgado V., Bax JJ., Maurovich-Horvat P., Merkely B., Gellér L. (2022) Orientation of the right superior pulmonary vein affects outcome after pulmonary vein isolation. *Eur Heart J Cardiovasc Imaging* **23(4)**: 515-523.

Szegedi N., Simon J., Szilveszter B., Salló Z., Herczeg S., Száraz L., Kolossváry M., Orbán G., Széplaki G., Nagy KV., Mahdiui ME., Smit JM., Delgado V., Bax JJ., Maurovich-Horvat P., Merkely B., Gellér L. (2022) Abutting Left Atrial Appendage and Left Superior Pulmonary Vein Predicts Recurrence of Atrial Fibrillation After Point-by-Point Pulmonary Vein Isolation. *Front Cardiovasc Med* **9**: 708298.

Salló Z., Perge P., Balogi B., Orbán G., Piros K., Herczeg S., Nagy KV., Osztheimer I., Ábrahám P., Merkely B., Gellér L., **Szegedi N.** (2022) Impact of High-Power and Very High-Power Short-Duration Radiofrequency Ablation on Procedure Characteristics and First-Pass Isolation During Pulmonary Vein Isolation. *Front Cardiovasc Med* **9**: 935705