

Surgical treatment of atrial fibrillation: prospective randomized study PRAGUE-12 and EndoMAZE procedure (toracoscopic ablation of atrial fibrillation)

Abstract (English)

First part of our research project is focused on surgical treatment of atrial fibrillation in patients who undergo a cardiac surgery for some other primary diagnosis (ischaemic heart disease and/or valve disease). Concomitant surgical ablation procedures are widely used with expected positive long-term clinical impact on patients. However, this assumption has never been confirmed by enough powerful randomized studies with long-term follow up.

Our PRAGUE-12 trial is the biggest, prospective, multicenter, randomized trial conducted to date. Its results demonstrated that surgical ablation improves the likelihood of SR presence post-operatively without increasing peri-operative complications. However, the higher prevalence of SR did not translate to improved clinical outcomes at 1 year.

Related publications describe in detail its design and its one-year results.

Second part of our research project is focused on surgical ablation of lone atrial fibrillation. In 2006, as a first cardiac surgery clinic in the Czech republic, we performed a completely toracoscopic ablation of this arrhythmia. More than thirty patients underwent this procedure in subsequent years. Based on our results, we found this method to be safe and feasible with acceptable one-year results. A blood samples were prospectively taken from most of these patients and tested for markers of apoptosis, inflammation and protrombosis. After 6 months from surgery, we found a significant decrease of some of those markers in patients whose arrhythmia has been successfully ablated. Therefore these results indicates a reversibility of those processes after successfull ablation of lone atrial fibrillation.

Related publications describe this new operation in detail and also its one-year clinical results and design and results of mentioned sub-trials.