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Attrition of Sinus Rhythm in Mid-term and Long Follow-up after Surgical Ablation of Atrial Fibrillation

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Objective:
While atrial fibrillation (AF) surgical ablation is a widely used procedure, its positive early and mid post-operative effects seem to decline during late follow-up. We describe late follow-up of surgical AF ablation and factors influencing AF recurrence years after the ablation.

Methods:
Between February 2004 and December 2009 we performed AF ablation using the same technique by bipolar radiofrequency ablator and cryoprobe as part of another cardiac procedure in 212 patients. Patients were 63±11 years of age. Of them, 79 (39%) had permanent and 86 (42%) persistent atrial fibrillation; 25 (14%) had left atrial volume 200 cc; 75% of patients underwent mitral valve surgery; 79% had left atrial ablation and 21% biatrial ablation.

Results:
Mean follow-up was 39 months (range 26-70 months), and was performed by electro physiologists and surgeons. Following the ablation, 38%, 43%, 35%, and 41% of patients were free from antiarrhythmic medications at 6 months, and at 1, 3, and 5 years respectively, and sinus rhythm was found in 83%, 81%, 72%, and 72% of patients at 6 months, and at 1, 3, and 5 years respectively. The attrition of sinus rhythm was insignificant (p0.05). The only patient factor related to ablation failure during late follow-up was pre-operative permanent AF (p=0.001). The duration of AF pre-ablation, left atrial size, age and other demographic parameters were not found to be related to AF recurrence.

Conclusions:
The efficacy of AF ablation seems to decline only insignificantly during late follow-up. Patients with permanent AF, however, can be expected to have a high rate of AF recurrence during late follow-up.