# THE SYSTEM OF RISK ANALYSIS FOR ATRIAL FIBRILLATION (SARF) PROVIDES GREATER CHANCE THIS ARRHYTHMIA AFTER Coronary Artery Bypass Surgery?

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**Introduction: Atrial** fibrillation after cardiac surgery (POAF) occurs in 25% to 40% of patients (P) after coronary artery bypass grafting (CABG), being more frequent in the first five days. Preventing POAF is a challenge in order to reduce complications and hospital stay. The atrial fibrillation risk analysis system (SARF) is an electrocardiographic method using the Poincaré plot of RR intervals to detect ectopic beats that are triggers for this arrhythmia (figure) and has been useful to identify P with risk of atrial fibrillation outpatients .
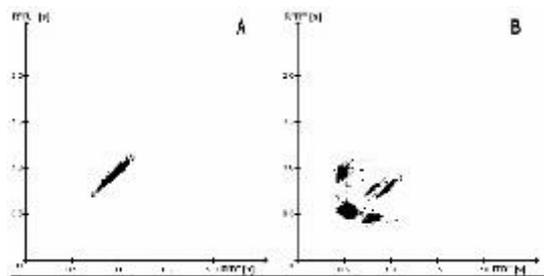


Poincaré plot obtained by SARF. In A, individual without ectopias in sinus rhythm (in graphic format "baseball bat"). B, sparse dots ("outliers") indicate the presence of ectopic beats and increased risk of POAF. Ordinates: interval RRN + 1; abscissa RRN range.

**Objective: To verify** if the SARF is effective for predicting POAF after CABG.

**Methods:** P 50, with no history of atrial fibrillation, underwent monitoring by SARF for one hour, one day before the surgery. After CABG P were followed until the fifth postoperative day. The SARF data were transferred to a central analysis released the results in graphical form. Positive correlation was found the presence of "outliers" in the chart. POAF was documented by ECG monitoring in the ICU and only by clinical history and evaluation of pulse followed by ECG after to the ward.

**Results:** 50 P (35 ♂ and **15**♀**;** mean age 63 ± 8.4 years, ranging between 48 and **79** years) undergoing CABG were prospectively evaluated. The POAF was documented in 6 / 50P (12%) of them in 3 (50%) was predicted correctly. Of 44P without POAF in 6 (14%) the SARF presented false positive result. The sensitivity, specificity, positive predictive value and negative in addition to the ratio of positive and negative probabilities were 50%, 86%, 33%, 93%, 3.67, 0.58 respectively. In the absence of "outliers" in the chart, the chance to POAF is minimal.

**Conclusions:** a) the SARF is a simple and feasible technique to be employed in predicting POAF; b) although modest sensitivity, has high specificity and good negative predictive value; c) A new study using Holter 7 days to document POAF the ward can reduce false positive results; d) these findings may be useful in preventive conduct of POAF.