Paroxysmal Atrial Fibrillation in Outpatients. The Role of Telemedicine in Diagnosis, Management and Short-Term Clinical Outcome

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Background: Patients with symptomatic or non-symptomatic paroxysmal atrial fibrillation (PAF) are at risk for thromboembolitic events. Telemedicine is well-recognized for efficacious detection and follow-up of cardiac arrhythmias.

Purpose: To assess the short-term clinical follow-up of patients whose documented PAF episode was treated by the SHL-Telemedicine mobile intensive care unit (MICU) team and remained home and were telephonically followed-up (symptoms and ECG transmissions) for 48 hours by SHL-Telemedicine's monitor center. They were transported to hospital if the PAF persisted.

Methods: All incoming calls to SHL-Telemedicine by patients with symptomatic and documented PAF between 2002-2008 were screened for the ones who fulfilled the above criteria.

Results: 116 patients (mean age 75±10 years, range 16-99; 77% female) who experienced 166 episodes of PAF were included. They all had various forms of heart disease: 32% past MI, 53% anginal syndrome, 24% heart failure and 37% valvular involvement. In addition, 56% were hypertensive and 16% were diabetics. Regular medications included antiarrhythmics (65%), ACE inhibitors (45%), statins (68%), anti-aggregants (63%), and anticoagulants (51%). The patients received oral/intravenous verapamil or diazepam or intravenous digoxin during the PAF episode: 113/166 (68%) converted to sinus rhythm within 16±12 hours from the call, and their heart rate decreased significantly (from 86 bpm to 68 bpm, $p<0.001$). Heart rate slowed only slightly (from 89 bpm to 86 bpm) in those who remained in AF.

Conclusions: Telemedicine can accurately monitor cardiac rhythm and detect PAF that fails to convert within 48 hours, possibly averting devastating thromboembolic events, especially in non-optimally anticoagulated individuals.