

Telemedicine for Symptomatic Arrhythmia: 'SHL-Telemedicine' Experience in Over 1000 Patients

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Background: Excessive valuable time is wasted between appearance of cardiac symptoms and diagnosis. The Cardio R® loop recorder uses digital technology to transmit cardiac recordings and symptom descriptions via cellular communication.

Objective: To assess the Cardio R® device's capability for early detection of electrical events which may account for symptoms.

Methods: Recordings are immediately diagnosed by the on-duty medical team at 'SHL'-Telemedicine's call center. Depending upon the displayed rhythm vis-à-vis the described symptoms, subscribers and/or their physicians either receive instructions or a mobile intensive care unit (MICU) is dispatched.

Selected Parameters of the 1086 Study Patients

Variable	Palpitations (735 patients) (18,575 transmissions)	Pre-syncope (301 patients) (7508 transmissions)	Chest pain (50 patients) (1726 transmissions)	Total (1086 patients) (27,809 transmissions)
Age (mean±1 SD), y	56±19	58±21	56±21	56±19
Male gender, %	36	45	44	39
Average transmissions/patient	29±57	28±58	33±55	26±47
Notifications to referring physician, n (%)	56 (0.30)	47 (0.63)	9 (0.52)	112 (0.40)
MICU dispatches, n (%)	16 (0.09)	12 (0.16)	0	28 (0.10)
Advice given to caller (no other action taken), n (%)	207 (1.11)	105 (1.40)	14 (0.81)	326 (1.17)
Relevant complaint* n/total (%)	11,888/18,575 (64)	756/7,508 (10)	949/1,726 (55)	13,593/27,809 (49)
Diagnostic real-time ECG, n (% of relevant complaints*)	11,413/11,888 (96)	446/756 (59)	674/949 (71)	12,533/13,593 (92)
Delay until transmission of 1st symptomatic episode, days	2±5	2±4	2±4	2±5

*The original complaint for which the patient was referred.

Conclusions: The Cardio R® device promptly enabled ECG interpretations to guide interventions for managing cardiac-relevant complaints.