Abstract: 2202

Instant analysis of the ECG with a new digital technique during palpitations reduce symptoms, anxiety, depression, and increase HRQOL in women

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Background: Palpitation is common, particularly in women, and usually benign caused by premature atrial/ventricular beats or stress-induced sinus tachycardia. Palpitations may cause disturbing symptoms, anxiety, depression, and decreased health related quality of life (HRQOL). Uncommonly, arrhythmias of clinical importance such as atrial fibrillation or paroxysmal supraventricular or ventricular tachycardia may be the cause.

Purposes: To evaluate if instant analysis of underlying heart rhythm during palpitations reduce symptoms, anxiety, depression, and increase HRQOL.

Methods: In all, 913 women (age 56 ±11 years) with palpitations causing anxiety were recruited from social web sites. Coala Heart Monitor® was used by participants and ECG recorded twice a day and at symptoms for 60 days. The system uses a well-validated algorithm to analyze heart rhythm, is connected to the user’s smartphone and provides immediate response to the user. In cases of non-benign arrhythmias, the result was also analyzed manually. Questionnaires addressing symptom (Symptom severity and frequency checklist (SCL), anxiety, depression Hospital anxiety and depression scale (HADS), Generalized Anxiety Disorder (GAD-7) and HRQOL (RAND-36)) were analyzed before and after two months. Exclusion criterium was known atrial fibrillation.

Results: Between June 2018 - November 2018, 280 474 recordings (both chest and thumbs) ECG recordings were automatically analyzed. Frequency and severity of symptoms decreased (frequency from 23.7±8.4 to 19.7 ±8.5 (p<0.001), severity from 22.7±4.9 to 21±4.4 (p<0.001)). Total anxiety measured by HADS decreased from 6.4±4.2 to 5.7±4.2 (p<0.001) and depression from 5.1±3.9 to 4.6± 4.1 (p<0.001). Generalized anxiety disorder decreased from 5.6±4.8 to 4.7±4.6 (p<0.001) and HRQOL increased in all domains (p<0.001). In 83% of recordings during symptomatic palpitation, benign premature atrial or ventricular beats, sinus tachycardia, or normal sinus rhythm were found.

Conclusions: Instant analysis of the ECG with direct response to the user during palpitations reduce symptoms, anxiety, depression, and increase HRQOL in women.