

REDHEART STUDY PROVES THE EFFICACY OF COALA IN MANAGING PATIENTS WITH PALPITATIONS

Instant electrocardiogram feedback with a new digital technique reduces symptoms caused by palpitations and increases health-related quality of life (the RedHeart study)

Carnlöf P et al. European Journal of Cardiovascular Nursing. March 2021
Link to full publication, open access: <https://doi.org/10.1093/eurjcn/zvaa031>

Aims

Palpitations, particularly common in women, are generally considered benign symptoms rarely caused by clinically important arrhythmias. Nevertheless, palpitations may cause anxiety, depression, and decreased health-related quality of life (HRQOL). This study investigates to what degree palpitations cause symptoms and affect HRQOL in women and whether direct feedback of underlying heart rhythm during palpitations decrease anxiety and depression and increase HRQOL in women.

Methods

The study included 821 women, age 21–88 years (mean 57 ± 11 years), with symptomatic palpitations. For 60 days, the participants used the Coala twice a day and when symptoms were present. Non-benign arrhythmias were also analyzed manually. Questionnaires addressing anxiety and depression—Hospital Anxiety and Depression Scale (HADS), Generalized Anxiety Disorder (GAD-7), HRQOL (RAND-36), and Symptoms Checklist: Frequency and Severity (SCL)—were analyzed before and after the data were collected.

Results

A total of 101 804 ECG recordings (in total 203 608 ECG strips) were automatically analyzed. In 94%, sinus rhythm or premature atrial/ventricular contraction were recorded; in 6%, atrial fibrillation or supraventricular tachycardia were recorded. Apart from PVCs, no ventricular arrhythmias were documented. Anxiety and depression decreased ($P < 0.001$) as did frequency and severity of symptoms, and HRQOL increased in all domains ($P < 0.001$) at the 2-month follow-up.

Conclusion

Instant analysis using Coala with direct response during palpitations decreases symptoms, anxiety, and depression and increases HRQOL in women.

Study highlights

- Largest study of its kind with 821 patients (women-only) with palpitation issues using Coala for 60-day monitoring.
- Over 200,000 individual ECG strips were analyzed.
- The direct ECG response of the Coala contributed to reduced levels of anxiety, depression and symptoms of palpitations.
- The direct ECG response of the Coala also led to an increased quality of life (HRQOL)
- Study shows the value of long-term monitoring and that most episodes of palpitations are benign.



Q&A WITH DR. CARINA CARNLÖF

Dr. Carnlöf, tell us about the RedHeart-study and why the findings are important?

In one of my research projects as part of my dissertation, I found that women with paroxysmal supraventricular tachycardias (PSVT's) had to wait in average six years longer than men to be referred on for ablation. Our results were unfortunately not the first reported on this issue, and we began to think about how many women with palpitations were missed with these diagnoses.

The problem with PSVT is that the palpitation most often is temporary and intermittent and unable to be recorded on an ECG in the doctor's office. With a portable heart monitor, you can hopefully catch your heartbeats in everyday life and have the ability to share it with your physician.

The RedHeart study only included female patients with PSVT and atrial fibrillation (AF) as research has found that women are more symptomatic, have a lower quality of life, and are treated with interventions such as cardioversion, catheter ablation, or antiarrhythmic drug therapy less frequently than men.

“ECG-monitoring with the Coala - when sudden and unclear palpitations are present - leads to reduced symptoms of anxiety and depression and improves quality of life”



The RedHeart-study was led by **Carina Carnlöf**, PhD Karolinska Institute and Registered Nurse at the Karolinska University Hospital, Stockholm, Sweden.

carina.carnlof@sll.se

What do you see as the most important conclusions of the RedHeart study?

It is important to listen to the patient. Getting a diagnosis or just finding out that there is nothing wrong can reduce anxiety and hopefully it can be easier to live with their symptoms.

It certainly helps to give an added feel of security by being able to record your heart rhythm when rhythm irregulates occurs and be able to get an immediate result. The Coala differs from other devices on the market because of the instant response and by reducing worries and anxiety related to palpitations, there is ability to help to decrease the need of unnecessary admissions to primary care and emergencies.

The RedHeart findings suggest that direct ECG feedback improves a patient's sense of control, security, and empowerment when experiencing palpitations. Empowerment is a concept often used in patient-centered care. Healthcare professionals should facilitate processes where patients are encouraged to become active participants in their own care. By offering portable ECG recording devices to patients who experience palpitations, healthcare providers can demonstrate that they are taking their patients' concerns seriously and want to help them find a way to deal with their symptoms.

What clinical implications do you see from the study?

This was the largest study of its kind and we could show with statistical significance that instant analysis of the ECG with direct response during palpitations decreases symptoms, anxiety, depression, and increases HRQOL. We could also show that palpitations in women are seldom caused by arrhythmias of clinical importance.

By using new digital solutions, it was possible to enroll a large number of study participants with efficient data collection from both metropolitan and rural areas.

Hopefully, the results can lead to improved patient care for the many women that suffer from palpitations!