

Filling the gap in the detection and management of dysrhythmia - the life-vest

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Objectives: Palpitations and syncopes are frequent possible symptoms of dysrhythmias in pediatric patients and in patients with congenital heart diseases. The precise diagnosis can be influenced by a number of factors: non-compliance, rare occurrence and short duration of the dysrhythmia. With the standard holter ECG there is only the option of 24-48-hour monitoring of the patient. Event monitors however are invasive and expensive procedures. To date there is no possibility to make a 30-day monitoring with a 3-channel ECG.

Methods: We used the 3-channel cordless ECG from Nuubo® in 15 consecutive patients and assessed the feasibility and accuracy. In addition questionnaire regarding patient comfort was used. Diagnostic investigation were indicated because of palpitations, syncopes, previous history of dysrhythmia with new symptoms and for therapy monitoring. The average period of monitoring was 9 days (5-21 days). The median age was 22 years (1-61 years).

Results: The long-term ECG monitoring showed an excellent signal quality in all patients; 84 % available in analysable form. No patient prematurely stopped the long-term ECG. Even patients with massive scoliosis, dextrocardia and other complicating circumstances such as patient compliance reached a good signal quality. In 4 patients dysrhythmia were detected which required a therapy adjustment. These periods of dysrhythmia were of short duration and did not happen every day so that it might have stayed undetected with a standard holter ECG. 3 patients showed no changes in their known dysrhythmia and 8 patients showed normal ECG in rare episodes of palpitations or syncope. All the patients would choose to wear the Nuubo system again.

Conclusion: The cordless ECG from Nuubo® is a helpful diagnostic tool for patients with suspected rhythm disorders covering a wide age and size range. The monitored period was adapted to individual patients needs. The cordless ECG showed impressive signal quality and precise detection of arrhythmias.