Case Study: Ambu - Blue Sensor SU vs. MSB Biotab

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"It was evaluated to be easier to obtain a good ECG signal quality using the Blue Sensor SU electrode compared to the Biotab ECG electrode. The SU electrode skin adhesive guaranteed a good skin attachment while still ensuring very easy electrode removal afterwards."

The aim of this trial was to compare two different types of disposable ECG electrodes, the Ambu SU and the MSB Biotab, regarding quality of the ECG trace, time used on the ECG procedure, electrode attachment and patient comfort.

Number of patients: 299

The patients were randomized into 4 groups: Group 1: Skin preparation with alcohol prior to the resting ECG procedure using Blue Sensor SU (81 patients); Group 2: Skin preparation with alcohol prior to the resting ECG procedure using MSB Biotab (85 patients); Group 3: No skin preparation prior to the resting ECG procedure using Blue Sensor SU (68 patients); Group 4: No skin preparation prior to the resting ECG procedure using MSB Biotab (65 patients).

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The number of registrations performed before an acceptable ECG trace could be obtained was lower for the Blue Sensor SU electrodes compared to the Biotab electrodes. This was most evident in the skin preparation group where 81% of the acceptable SU ECG traces were obtained during the first recording. In contrast, only 69% of the usable Biotab ECG traces were obtained during the first recording. In the group without skin preparation, the percentages of usable first time recordings were 68% and 65% for SU and Biotab electrodes, respectively.

Poor quality ECG traces were observed more frequently using Biotab electrodes compared to SU electrodes. The difference in the frequency of poor quality ECG traces between SU electrodes (21%) and Biotab electrodes (39%) was statistically significant in the group without skin preparation.

In the patient group with skin preparation, the electrodes fell off in 1 out of 81 cases (1,2%) with Blue Sensor SU and in 12 out of 86 cases (14,0%) with the MSB Biotab electrodes. In the group without skin preparation, the electrodes fell off in 2 out of 67 cases (3.0%) with Blue Sensor SU and in 4 out of 65 cases (6,2%) with MSB Biotab.

A total of 93% of the SU users found it very easy to remove the SU electrode from the patient's skin. In comparison, only 83% of the Biotab users evaluated it to be very easy to remove the Biotab electrodes from the patient's skin.

In conclusion, it was evaluated to be easier to obtain a good ECG signal quality using the Blue Sensor SU electrode compared to the Biotab ECG electrode. The SU electrode skin adhesive guaranteed a good skin attachment while still ensuring very easy electrode removal afterwards.

Reference

Numed.co.uk. (2017). Case Study: Ambu - Blue Sensor SU vs. MSB Biotab | Numed Healthcare. [online] Available at: https://www.numed.co.uk/case-studies/ambu-blue-sensor-su-electrodes-vs-msb-maersk-biotab-electrodes-for-resting-ecg [Accessed 6 Jul. 2017].