Method for non-invasively recording electrocardiograms in conscious mice

ABSTRACT

Our technology enables non-invasive screening of large numbers of mice for ECG changes caused by genetic, pharmacological, or pathophysiological changes. Not only does this match the data reported so far with expensive and invasive methods, but it also provides new insights into gender- and age-dependent differences in EKGs in mice.

INTRODUCTION

Electrocardiography (ECG) is used to monitor the heart rate of the heart. The electrocardiogram (ECG) is a non-invasive method used to record the electrical activity of the heart during a cardiac event.

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In this study, we aim to investigate the mechanism of action of the non-invasive method in monitoring the heart rate of the heart in conscious mice. We show that non-invasive EEG recording with a novel electrode configuration in isolated ventricles of the heart is able to monitor the heart rate of conscious mice with high While other techniques have been used to produce electrocardiogram (ECG) results in conscious mice, the current ones involving restraint or anesthesia and surgical implantation of telemetry devices require an additional 3 weeks for adequate recovery. To address this problem, we developed another non-invasive technique that involves placing the animal on what is termed a platform with paw-sized ECG electrodes connected to an amplifier; this method allows us to screen large numbers of EEGs without invasive surgery and is comparable to those published by other methods. e-MOUSETM was designed specifically created

CONCLUSION

Remarkable conclusions We developed a non-invasive method for obtaining ECGs in conscious mice. We created an Internet-based portal for analyses of mouse electrocardiograms. This system demonstrated significant differences in electrocards based on age, strain, and gender. Furthermore, we demonstrated gender-dependent differences (5% and 50%) in the cardiovascular response to -adrenoceptor stimulation. Our findings may indicate that the stimulatory effects of genes and drugs on cardiac function may be more profound in male or masked in female mice; this approach may improve the quality and quantity of data from mice mice).