



Abstract Title: Equine 3D Electro-anatomical Mapping in Sinus Rhythm elucidates the Electrocardiogram and Cardiac Electrical Activation Pattern

ABSTRACT PREVIEW: EQUINE 3D ELECTRO-ANATOMICAL MAPPING IN SINUS RHYTHM ELUCIDATES THE ELECTROCARDIOGRAM AND CARDIAC ELECTRICAL ACTIVATION PATTERN

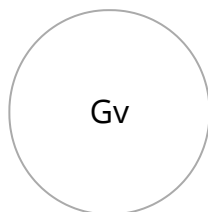
[Edit Equine 3D Electro-anatomical Mapping in Sinus Rhythm elucidates the Electrocardiogram and Cardiac Electrical Activation Pattern](#)

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Primary Presenter(s)



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I accept the ACVIM can not guarantee a research abstract physical poster Q&A presentation method due to space limitations.

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Abstract

Primary Audience Interest

Equine

Research Abstract Consideration

- Yes

Classification (Used for sub dividing Small Animal Internal Medicine, Equine and Food Animal Internal Medicine.)

- Cardiology

Abstract

Understanding the depolarisation pattern of the equine heart under normal physiological conditions, and its relationship to the surface electrocardiogram (ECG), is of uppermost importance before any further research can be done about the pathophysiology of complex arrhythmias. The purpose was to use a 3D electro-anatomical mapping system under general anaesthesia to evaluate the qualitative and quantitative atrial and ventricular depolarisation patterns and correlation with the surface ECG in 7 healthy horses in sinus rhythm. Bipolar activation maps of the endocardium were analysed. The first atrial activation was located at the height of the crista terminalis. Only one interatrial conduction pathway was recognised. The first and second P wave deflections represented the right and left atrial depolarisation, respectively. His bundle electrograms could be recorded in 5 out of 7 horses. Left ventricular activation (Fig. 1 to 3) started at the mid septum, right ventricular activation apically from the supraventricular crest. This was followed by separate depolarisations at the height of the mid free wall. Further ventricular depolarisation occurred in an explosive pattern. Electrically active tissue could be found in all pulmonary veins. In contrast to findings of previous studies, all parts of the ventricular depolarisation contributed to the surface ECG QRS complex. This study provides a reference for the normal sinus impulse endocardial propagation pattern and for conduction velocities in equine atria and ventricles. This information allows to improve ECG reading and develop better recording techniques, such as new 12-lead ECG configurations, in horses.

Presentation Scheduling

(please not on Wednesday)

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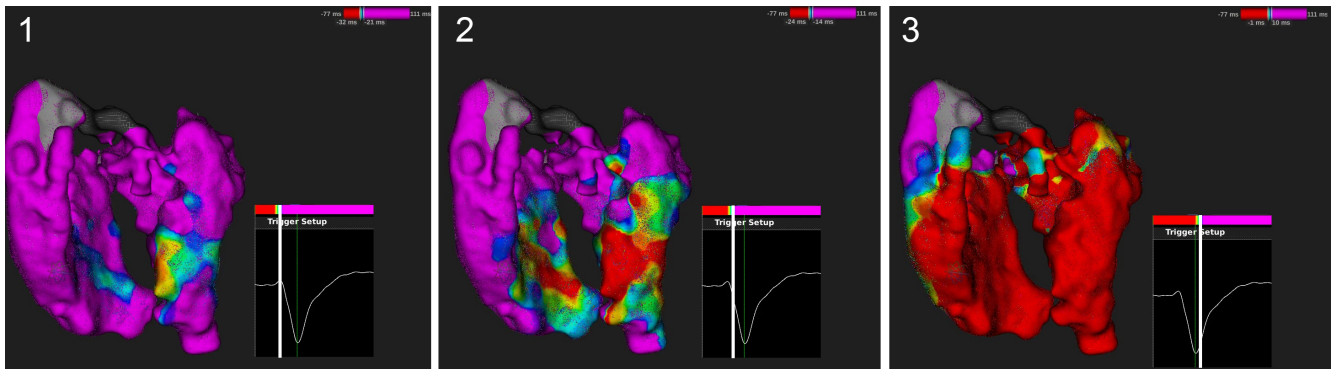


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Humane Care, Conflict and Publishing

Humane Care

Yes

Conflict of Interest

No

Conflict of Interest

Previously Published

No

Previously Published

