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Electrocardiography in two subspecies of manatee (Trichechus manatus latirostris and T. m. manatus).

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Source

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Abstract

Electrocardiographic (ECG) measurements were recorded in two subspecies of awake, apparently healthy, wild manatees (Trichechus manatus latirostris and T. m. manatus) undergoing routine field examinations in Florida and Belize. Six unsedated juveniles (dependent and independent calves) and 6 adults were restrained in ventral recumbency for ECG measurements. Six lead ECGs were recorded for all manatees and the following parameters were determined: heart rate and rhythm; P, QRS, and T wave morphology, amplitude, and duration; and mean electrical axis (MEA). Statistical differences using a t-test for equality of means were determined. No statistical difference was seen based on sex or subspecies of manatees in the above measured criteria. Statistical differences existed in heart rate ($P = 0.047$), P wave duration ($P = 0.019$), PR interval ($P = 0.025$), and MEA ($P = 0.021$) between adult manatees and calves. Our findings revealed normal sinus rhythms, no detectable arrhythmias, prolonged PR and QT intervals, prolonged P wave duration, and small R wave amplitude as compared with cetacea and other marine mammals. This paper documents the techniques for and baseline recordings of ECGs in juvenile and adult free-living manatees. It also demonstrates that continual assessment of cardiac electrical activity in the awake manatee can be completed and can be used to aid veterinarians and biologists in routine health assessment, during procedures, and in detecting the presence of cardiac disease or dysfunction.

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