

Electrocardiogram of a Leopard (*Leopardus tigrinus*) Cub

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Abstract

An electrocardiogram of a six month old leopard cub revealed values of heart rate, 'P' amplitude, 'P' durations' P-R' interval, 'R' amplitude, 'QRS' duration, 'S-T' segments, 'T' amplitude, 'T' duration, 'Q-T' interval and R-R interval as 140 bpm with sinus rhythm, 0.1mV, 0.04 second, 0.07 second, 0.25 mV, 0.04 second, 0.12 second, 0.2 mV, 0.08 second, 0.24 second and 0.46 second respectively. 'P', 'QRS' and 'T' waves were positive in lead II and resembled with that of cats. This seems to be the first report of an electrocardiogram in leopard cub in India.

Key words: Electrocardiogram, leopard cub

Electrocardiography is an important tool for diagnosing arrhythmias and conduction disturbances and is an integral part of complete cardiovascular examination in animals and humans. A huge literature is available on electrocardiographic patterns of dogs, cats, ruminants and equines at home and abroad. Information on electrocardiogram of leopard is very scarce (Oda et al., 2009) and no report could be traced in India. Therefore present report put on record an electrocardiogram of a leopard cub .

Case History and Observations

A six month old male leopard cub with trauma was referred to me for the diagnosis and treatment. For examination the cub was anesthetized with xylazine (1.0 mg/kg) and ketamine (10mg/kg) and subjected to radiography of neck (lateral and ventro-dorsal views) as well as to electrocardiography. For electrocardiography the cub was placed in right lateral recumbency on a wooden table. The sites for applying alligator clips were prepared by shaving and cleaning with alcohol. Gel was applied liberally on the areas of attachment of electrodes. Hex-axial Lead system was followed. Right forelimb clip electrode (red) and left fore limb clip electrode (yellow) were attached proximal to the olecranon on the caudal aspect of the right and left forelimbs respectively. Right hind limb clip electrode (Black) and left hind limb clip electrode were attached over patellar ligament on the anterior aspect of the right and left hind limbs respectively (Fig.1). Electrocardiogram was recorded in calm and quite surroundings using Magic RX (Maestros Mediline

Systems Limited) electrocardiographic machine at a paper speed of 25 mm per second and sensitivity of 1. ECG recordings were analyzed for amplitudes and duration of 'P', 'QRS' and 'T' waves; P-R interval, ST segment, and Q-T interval; and heart rate.

Male six month old leopard cub was referred for diagnosis and treatment. To make the cub cooperative during examination, the cub was anesthetized with standard procedure of xylazine- ketamine anesthesia. Clinical examination revealed discomfort and pain on palpation of cervical region. On radiography ,1st cervical vertebra showed minor traumatic injury. The electrocardiogram of the cub (Fig. 2 and 3) revealed values for heart rate, 'P' amplitude, 'P' durations' P-R' interval, 'R' amplitude, 'QRS' duration, 'S-T' segments, 'T' amplitude, 'T' duration, 'Q-T' interval and R-R interval as 140 bpm with sinus rhythm, 0.1mV, 0.04 second; 0.07 second, 0.25 mV, 0.04 second, 0.12 second, 0.2 mV, 0.08 second, 0.24 second and 0.46 second respectively. 'P', 'QRS' and 'T' waves were positive and small as seen in cats. As compared to cats, heart rate in leopard cub was low. In adult leopard the values for heart rate, 'P' amplitude, 'P' durations' P-R' interval, 'R' amplitude, amplitude 'QRS' duration, 'Q-T' interval have been reported as 107 ± 17 (bpm), 0.128 ± 0.048 mV , 0.048 ± 0.072 second, 0.101 ± 0.081 second, 1.446 ± 0.602 mV, 0.053 ± 0.012 second, and 0.231 ± 0.028 second respectively by Oda *et al.* (2009). The values for heart rate (high), P-R interval (short), R amplitude (low) and QRS duration (slightly narrow) in the leopard cub in the present investigation differed slightly from those reported for adult leopards (Oda *et al.*, 2009). This seems to be the first report of an

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Fig. 1. Placement of electrodes in a Leopard Cub for Electrocardiography (Hex-axial Lead system).

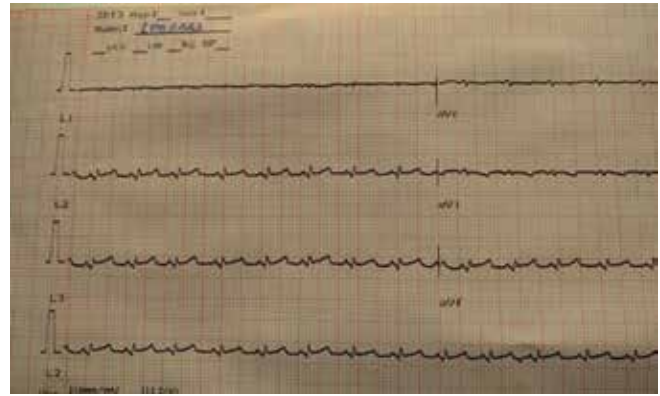


Fig. 2. Electrocardiogram (sensitivity 1, speed 25 mm/second) of a six month old leopard Cub in different leads (Lead I, II,III aVR,aVL and aVF).

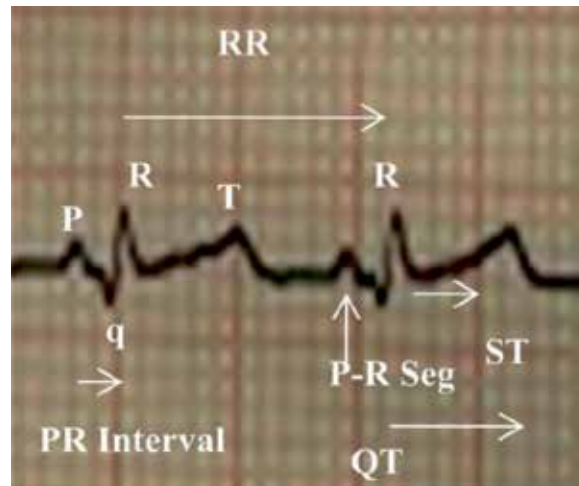


Fig. 3. Magnified view of the above Electrocardiogram (Lead II ,sensitivity 1, Speed 25 mm/min.) showing different waves, segments and intervals.

electrocardiogram in a leopard cub in India.

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