

Biochemical Markers of Liver Injury in Keepers of Captive Elephants in Sri Lanka

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Most elephant keepers in Sri Lanka, who were un-educated, have left the profession due to various reasons. The current elephant keepers are better educated but they frequently smoke and consume alcohol. It is timely to screen all elephant keepers for illnesses and educate them on diseases that are related to their life-styles and habits. Such special medical attention would encourage them to provide better health care and to be more concerned about captive elephants under their care.

The objective of the present study was to to detect liver and kidney related conditions in elephant keepers through blood samples and urine analysis. Urine samples were also taken whenever possible for kidney function tests. All elephant keepers were requested to come for blood tests after 12 hours of fasting when captive elephants were brought to Kandy for the annual procession during August 2011. Only 36 keepers reported to the clinic and were subjected to blood and urine examinations in a mobile laboratory. Full blood counts, ESR (Erythrocyte Sedimentation Rate), fasting blood sugar, liver and renal function tests on blood and full urinalyses were conducted. All keepers were educated about the study and its benefits and all of them signed a consent form.

Only 17 keepers had normal reports and could be categorized as "healthy". A total of 19 out of 36 had pathological findings either in blood, urine or in both. Twelve keepers showed evidence of liver disease with elevated Serum Glutamic Oxaloacetic Transaminase (SGOT, Mean = 77.7 units/l, SD \pm 7.9) and Serum Glutamic Pyruvic Transaminase (SGPT, Mean = 83.1 units/l, SD \pm 15.3). Two (2) keepers showed evidence of thrombocytopenia (90,000/ml and 110,000/ml) probably due to hypersplenism secondary to portal hypertension and cirrhosis. One keeper had hyperglycemia (12 mmol/l) and two keepers had eosinophilia indicating a possibility of parasitic infestation or allergy. All together 15 keepers submitted urine samples, 5 of them had more than 5 pus cells/HPF and albuminuria, as evidence of Urinary Tract Infection (UTI) and one had haematuria.

It appears that approximately half the keepers tested were not healthy. A substantial proportion may be having life-threatening chronic liver conditions which could be prevented via health education. The keepers need to be educated on UTI and urethritis and they must be assisted with early medical assistance when required.