

Bloody Diet and Antioxidant Status in Common Vampire Bat

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Unique among mammals, the common vampire bat *Desmodus rotundus* is an obligatory blood feeder and, therefore must handle daily large quantities of ingested hemoglobin-iron. Previous data from our lab (T-39, SBBq 2008) indicated that despite its potentially oxidative diet, the vampire bat presents few differences in oxidative status in liver and muscle when compared with rats and mice. In the present work we determinate the effect of a blood meal in the levels of liver and muscle TBARS and carbonyl protein (CP) as well as activities of antioxidant enzyme (Catalase, GST, GR and G6PDH) in vampire bat. We observed an increase in hepatic GST and G6PDH activities after 24h of blood ingestion. A tendency towards an increase in CP levels and towards a mild decrease in TBARS levels was observed in muscle. No changes (over 24h) were found in catalase, GR, CP and TBARS in liver, as well as GST and G6PDH activities in muscle. These results suggest an important role of liver GST and G6PDH to maintain redox status during blood digestion. Biological significance of CP and TBARS levels data in muscle remain unclear. Conceivably, fine regulation of iron metabolism may enable vampire bat to deal with an iron-enriched diet avoiding its availability for oxidative stress induction. Further studies on proteins involved in iron metabolism in gut (where iron intake is controlled) are now under way to confirm this hypothesis. **Keywords:** Free radicals, common vampire bat and iron overload. **Acknowledgements:** CAPES, CNPq and CNPq-Redoxoma.