

Respiratory activity of isolated liver Mitochondria following Trypanosoma congolense infection in rabbits: the role of thyroxine.

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Abstract:

1. The effect of trypanosome infection on rabbit liver mitochondrial oxidative phosphorylation was investigated, with and without thyroxine replacement. 2. State 3 respiration, respiratory control ratio (RCR) and ADP/O ratio were significantly reduced in mitochondria from trypanosome-infected animals whereas there was no change in state 4 respiration. 3. State 3 respiration, RCR and ADP/O ratio were not significantly altered in trypanosome-infected animals given thyroxine replacement therapy. 4. Trypanosome infection leads to impairment of mitochondrial integrity, apparently through lowered thyroxine levels. Replacement of thyroxine therefore sustains optimal mitochondrial respiratory activity.