

METABOLISM AND EFFECT OF NITRATES

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SUMMARY

The effect of nitrate on the health of mice in a long term study is described. Nitrate was given to the mice in the form of calcium nitrate in drinking water in varying concentrations, and the mice were observed over the course of 18 months. Three groups were formed: 1. control group, 2. group I (100 mg nitrate/l drinking water) and group II (1 000 mg nitrate/l drinking water). The parameters studied were liver function, kidney function, total iron, ammonium, total protein and electrophoresis of the various serum proteins, body weight, and N-glycolyl-neuraminic acid as a tumor marker.

Nitrate is broken down via nitrite, hydroxylamine to ammonium and finally to urea. The concentration of urea increased with time and higher concentrations of nitrate load. The exposed mice clearly lost weight and died prematurely. This was true only for the mice in group II. With a load of 100 mg/l drinking water, no change in the physiological parameters could be seen within the time period studied.

Key words: nitrates, urea, survival, ammonia, sialic acid

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