The toxicity of flavonoids to guinea pig enterocytes.

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Flavonoids, a group of compounds found primarily in vegetables and fruits, are generally believed to be beneficial to biological systems. Isolated guinea pig enterocytes were exposed to three of these compounds (kaempferol, quercetin, and myricetin) in concentrations of 50-450 microM. Toxicity was examined using trypan blue exclusion and lactic dehydrogenase (LDH) leakage. All three flavonoids produced cellular damage at 450 microM: compared with a control incubation, cellular viability was 12-60% lower and LDH leakage 28-41% greater after a 3-hr incubation. In addition, as assessed by trypan blue exclusion, quercetin and myricetin, both of which produce superoxide on autoxidation, appeared to be more toxic than kaempferol. These results suggest that dietary flavonoids may have the potential for producing intestinal injury.

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