EFFECT OF LEVAMISOLE ON
DRUG METABOLISM BY THE LIVER

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SUMMARY

Inhibition of drug metabolizing enzyme have been reported for such substances like BCG, C.parvum, interferon-inducers, phagocyte-activators and other agents which modify functions of the immune system. Levamisole, a widely acclaimed immune-modulator, might also inhibit drug metabolism. If so, some links between the two actions may exist. In male mice, doses of levamisole that are reportedly effective in altering the immune system, produced neither change in liver weight, microsomal protein, hexobarbital sleeping time nor activities of aniline hydroxylase and aminopyrine demethylase in this study. Even in immunosuppressed and aged mice in which levamisole might have more profound immunologic effects, no change in drug metabolism by the liver was observed after giving the drug.

We found, instead, that higher doses of levamisole stimulated drug metabolism by the liver. The effect was proportional to dosages of levamisole given and was abolished by puromycin. Levamisole thus appears to be a fast-acting inducer of liver drug-metabolizing enzymes when given in high doses; the lower doses employed therapeutically cause neither induction nor inhibition of drug metabolism.