

Type II Inhibition

Inhibitor combines with the enzyme in a manner that promotes thermal inactivation. As a result, inhibitor combines with E_1 only. Subscript 3 is used for this reaction.

By treatment similar to the preceding equations:

$$E_0 = E_a + E_i + K_2(E_i)(U)^* \\ = E_a + K_1(E_a) + K_1K_2(E_a)(U)^*$$

$$E_a = \frac{E_0}{1 + K_1 + K_1K_2(U)^*}$$

$$I_1 = \frac{c(L)(E_0)(ATP)}{1 + K_1}$$

$$I_2 = \frac{c(L)(E_0)(ATP)}{1 + K_1 + K_1K_2(U)^*}$$

$$\frac{I_1}{I_2} = \frac{1 + K_1 + K_1K_2(U)^*}{1 + K_1} = 1 + \frac{K_1K_2(U)^*}{1 + K_1}$$

$$\frac{I_1}{I_2} - 1 = \frac{K_1K_2(U)^*}{1 + K_1}$$

$$\left(\frac{I_1}{I_2} - 1\right)\left(1 + \frac{1}{K_1}\right) = K_2(U)^* \\ = U^*e^{-\Delta H_2/RT}e^{\Delta S_2/R}$$

$$\ln\left(\frac{I_1}{I_2} - 1\right)\left(1 + \frac{1}{K_1}\right) = \ln U - \Delta H_2/RT + \Delta S_2/R$$

Drugs and Their Actions

INTRAVENOUS CONTRAST MEDIA AND MORTALITY A nationwide survey of ten years' teaching-hospital experience covering 3.8 million excretory urograms revealed an overall death rate of 19 per million. Seventy-two per cent of surveyed radiologists employed intravenous pretesting with 0.5-1.0 ml contrast medium followed by 2-5 minute observation periods. Other tests, rarely used, were intradermal, subcutaneous, and ocular instillation of the contrast medium. There was no demonstrable reduction in mortality in pretested patients. Twenty-three deaths followed negative pretests, and two patients died consequent to reactions caused by the pretests. The intravenous pretest cannot be considered either safe or effective. Few patients who have serious pretest reactions to the contrast media have histories of allergies. All radiologists performing excretory urography should be prepared to support the circulation and respiration in the face of an anaphylactic reaction. (Fischer, H. W., and Doust, V. L.: *An Evaluation of Pretesting in the Problems of Serious and Fatal Reactions to Excretory Urography, Radiology* 103: 497-501, 1972.)

POSTURAL HYPOTENSION The concurrent use of sympathomimetic amines or the consumption of tyramine-containing foodstuffs is contraindicated in patients treated with monoamine oxidase inhibitors, because the ensuing hypotension may be very severe. This undesirable combination, however, was found to be useful for the symptomatic treatment of patients suffering from idiopathic postural hypotension. Four patients who were receiving fludrocortisone therapy were given tranylecypromine in doses ranging from 30 to 80 mg daily while hydroxyamphetamine, amphetamine, or dextroamphetamine was administered with tyramine in the form of cheddar cheese or Chianti wine. Two of the patients showed improvement for nine and 26 months, respectively. Side-effects and/or progression of the basic disease processes forced discontinuation of therapy in three of the patients. (Lewis, R. K., and others: *Therapy of Idiopathic Postural Hypotension, Arch. Intern. Med.* 129: 943-949, 1972.) **ABSTRACTER'S COMMENT:** A most ingenious approach, utilizing a pharmacologic effect generally considered a complication of antihypertensive therapy to treat inappropriate regulation of systemic blood pressure.