is simple and relatively rapid. The resolution of 'critical pairs' is still impossible.

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Effect of Colchicine on Rat Blood Serum Xanthine Oxidase

IN previous work¹ it was shown that colchicine, when injected intraperitoneally, inhibits activities of rat liver xanthine oxidase and dehydrogenase. A strong inhibition was also observed when this drug was added *in vitro* to purified liver xanthine oxidase but statistically significant changes were not noted when colchicine was added to liver homogenate. The present work deals with the effect of this drug on the rat blood serum xanthine oxidase.

Normal male Wistar white rats weighing between 95 and 100 gm. and maintained on a well-balanced diet were used. Blood samples were withdrawn by heart puncture. Each determination was carried out on pooled non-haemolysed serum of 4 rats. The animals were injected intraperitoneally with an alcoholic solution (6.8 per cent) of colchicine (0.1 mgm./100 gm. body-weight). Blanks were performed by injecting a 6.8 per cent alcoholic solution. Blood was taken 20 hr. after injection of the drug.

Blood serum xanthine oxidase activity was measured manometrically as previously described² using 0.05 M hypoxanthine solution as substrate. Xanthine dehydrogenase activity was measured by the method of Villela³ using 0.5 ml. blood serum, 0.1 ml. 0.05 M hypoxanthine solution, 0.3 ml. 0.1 per cent triphenyltetrazolium chloride solution and 2.5 ml. 0.015 M pyrophosphate buffer, pH 8.6.

Colchicine administration increases activities of xanthine oxidase and xanthine dehydrogenase a few hours after the injection of the drug, and this activation is statistically significant (Table 1). The highest values of the activation of the enzyme were found approximately 20–30 hr. after administration of the drug (Fig. 1). It was shown that a single injection of 0.1 mgm. of colchicine/100 gm. body-weight is able to activate blood xanthine oxidase and xanthine dehydrogenase which reach their highest values 20–30 hr. after the injection. However, the values return to normal after 68 hr. Work is in progress to establish the possible relation between effect of colchicine on the liver and the blood serum enzymes.

Fig. 1. Activity of blood serum xanthine dehydrogenase in rats injected with colchicine. Figures on graph represent number of determinations, and vertical bars indicate average values $\pm$ standard deviation

Table 1

Enzyme activity	Control*	Colchicine*	
Xanthine oxidase (mm. ³ O ₂ /ml. blood serum)	13.39 $\pm$ 3.22 (5)	20.90 $\pm$ 5.39 (8)	$t = 3.15$; $P < 1\%$
Xanthine dehydrogenase (μ gm. formazan/0.5 ml. blood serum)	15.5 $\pm$ 2.77 (4)	28.1 $\pm$ 3.00 (9)	$t = 7.50$; $P < 1\%$

* Values obtained 20 hr. after injection.

Values given are mean $\pm$ standard deviation for the number of rats (indicated in parentheses).

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Redistribution of Lipid in Rat Liver Homogenates

WHEN a homogenate of rat liver is subjected to high centrifugal forces a creamy layer of lipid appears on the surface of the clear supernatant^{1,2}. In choline deficiency this 'floating' or 'free' lipid increases in parallel with the increase of liver triglycerides³. It