

Table 1. PLASMIN-LEVELS IN THE INFANT RAT AND KITTEN COMPARED WITH THE ADULT RAT AND CAT (EXPRESSED AS PERCENTAGE LYSIS OF FIBRIN CLOT AFTER 2 HR.)

Age (days)	Rat			Cat		
	Mean plasmin level (per cent)	No. of observations	S.D.	Mean plasmin level (per cent)	No. of observations	S.D.
1	11.3	3	1.8	4.5	4	3.0
3	5.2	4	12.5	13.3	3	1.8
4	17.0	3	4.7	50.6	3	9.2
5	52.3	3	4.5	37.5	4	6.0
adult	61.5	7	11.7	46.2	4	6.2

Table 1 shows that low plasmin-levels are present in early post-natal life in both the rat and the cat. In the cat, plasma fibrinolytic activity comparable with that of the adult is attained in 4 days, while this does not occur in the rat until the age of 5 days. The difference in time at which the enzyme appears in the two animals may be attributed to the less-mature state of the rat at the time of birth compared with the kitten. These findings suggest that in these two animals plasmin belongs to the group of enzymes which appear to be inactive until after birth.

At the present time we are conducting a more extensive investigation of fibrinolytic activity in the blood of premature and full-term laboratory animals and human infants.

B. G. R. NEVILLE  
R. G. SPECTOR

Pædiatric Research Unit,  
Guy's Hospital Medical School,  
Guy's Hospital,  
London, S.E.1.

- <sup>1</sup> Fleming, W. H., Szakaes, J. E., Hartney, T. C., King, E. R., *Lancet*, **ii**, 1010 (1960).
- <sup>2</sup> Gitlin, D., and Craig, J. M., *Pediatrics*, **17**, 64 (1956).
- <sup>3</sup> Lieberman, J., *New England J. Med.*, **265**, 363 (1961).
- <sup>4</sup> Smith, C. A., *J. Pediat.*, **56**, 605 (1960).
- <sup>5</sup> Andrews, W. H. H., Britton, H. G., and Nixon, D. A., *Nature*, **191**, 1307 (1961).
- <sup>6</sup> Richter, D., *Brit. Med. Bull.*, **17**, 118 (1961).
- <sup>7</sup> Biggs, R., and Macfarlane, R. G., in *Human Blood Coagulation and its Disorders*, second ed., 412 (Oxford, 1957).

### Effects of Stilbœstrol and Thiouracil on the Electrocardiograms of the Sheep

THE use of stilbœstrol and thiouracil in enhancing the fattening efficiency of livestock has emphasized

capsule of 'Adoxiline' (Glaxo) was given as vitamin A and D supplement once a week. The first group served as control, in the second 20 mgm. stilbœstrol (M. and B.) in pellet form was implanted under the skin, and 1 gm. of thiouracil (B.D.H.) per 100 lb. live weight was supplemented daily in the third group. For electrocardiographic recording, the method described by Mullick<sup>1</sup> was followed.

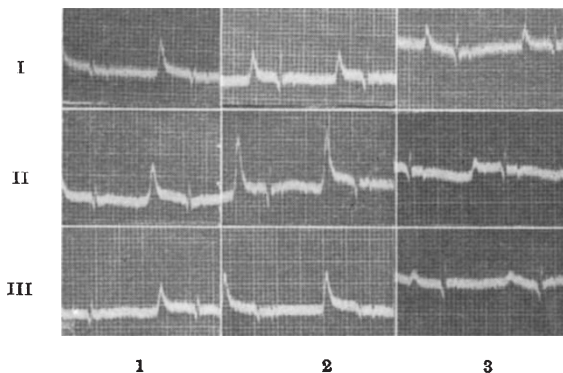


Fig. 1. 1, Control group; 2, stilbœstrol group; 3, thiouracil group

Table 1 and Fig. 1 show the summary of the electrocardiographic records.

*Normal electrocardiogram:* all the P waves were upright. Slight variation was recorded in the form of QRS. In all the tracings, Q and R waves were prominent, whereas very few S waves were noted. All T waves were inverted.

*Electrocardiogram following stilbœstrol implantation:* The heart-rate was slow and the interval and potential figures were higher. The significant change in the potential of the T waves indicated greater force of the heart output in each beat, whereas in other waves the changes were not appreciable. The absence of S waves was conspicuous.

*Electrocardiogram following thiouracil feeding:* The same trend of change in the heart-rate, intervals and potentials was noted as before but to a smaller extent.

It appears that the pharmacological action of these drugs may affect the normal physiological function

Table 1. EFFECT OF FEEDING STILBŒSTROL AND THIOURACIL ON THE ELECTROCARDIOGRAM OF SHEEP. (Mean value of three leads)

Group	Heart rate (beats/min.)	Intervals (sec.)			Potentials (mV.)				
		PR	QRS	QT	P	Q	R	S*	T
Control M <sup>1</sup>	78.0	0.124	0.057	0.317	0.100	-0.330	0.220	-0.100	-0.290
±S.D.	8.5	0.001	0.020	0.034	0.030	-0.110	0.120	---	0.100
Stilbœstrol M	75.0	0.127	0.059	0.322	0.110	-0.320	0.260	---	-0.710
±S.D.	11.2	0.001	0.021	0.036	0.030	-0.080	0.140	---	0.290
Thiouracil M	65.0	0.134	0.062	0.335	0.075	-0.400	0.190	---	-0.660
±S.D.	12.8	0.001	0.023	0.038	0.030	0.100	0.120	---	0.220

\* Figures are not sufficient.

<sup>1</sup> M represents the average of four sheep with ±S.D., standard deviation.

the importance of undertaking the present investigation on the physiological effects of these drugs on sheep.

Electrocardiographic tracings were recorded fortnightly for 6 months on 12 adult sheep, divided into three identical groups of four each. They were fed daily on a ration consisting of groundnut cake (4 oz.), barley (12 oz.), salt (1 oz.) and oat hay *ad lib.* A

of the cardiac cycle, and hence requires consideration in their administration.

D. N. MULLICK  
V. N. MURTY

Animal Nutrition Division,  
Indian Veterinary Research Institute,  
Izatnagar.

<sup>1</sup> Mullick, D. N., *Brit. Vet. J.*, **115**, 416 (1959).