there is a shelf or flange half way up the bevelled edge; the cage rests on this shelf. The upper surface of the grid supporting the animal is 5.5 cm. above the bottom of the plate.

Food is provided in a glass cup kept in place by a glass rod, the upper end of which passes through a cork held in a ring on the upper grid collar. A water fountain of simple design is also supported from the collar of the upper grid. Urine and feces are collected on a double layer of acid-soaked filter paper. Satisfactory recovery of nitrogen, calcium and phosphorus has been obtained when the papers are changed at 3-day intervals. This cage prevents access to metals, eliminates coprophagy, consists of easily replaceable parts with relatively low cost and is readily cleaned and sterilized.

5568

Effect of Digitalis on Duration of Electrical Systole ("Q-T" Interval) in Cardiac Failure.

S. N. CHEER.

From the Department of Medicine, Peiping Union Medical College.

Previous studies have shown that the "Q-T" interval of the human electrocardiogram is related to the duration of the cardiac cycle ("R-R" interval)[1] and that the "Q-T" interval is lengthened in relation to the cardiac cycle in cases of heart failure.[2] Since digitalis is the drug most successfully used in combating cardiac insufficiency, a study of the effect of this drug was made. It was found that adequate doses of digitalis almost uniformly produce a relative shortening of the "Q-T" interval and that a change in the same direction occurs in normal individuals[2] as well as in cardiac patients. Moreover, this effect of digitalis is seen at least as early as any other known change produced by its administration. A discussion with further details will be given in the complete paper.

The accompanying table gives a few examples of this effect of digitalis. Several hundred records, including those of 5 normal individuals, have been studied. In the table "K" is a constant in the

[1] Cheer, S. N., and Li, R. C., *Chin. J. Physiol.*, 1930, **4**, 191.

[2] Cheer, S. N., to be published.

TABLE I.
Effect of digitalis on "Q-T" interval.

Diagnosis	Date	"R-R" interval	"Q-T" interval	"K"	"T" lead II	Digitalis
Case 2		sec.	sec.		mm.	
Rheumatic mitral disease	June 6	0.580	0.330	0.433	9.0	None
	" 16	0.610	0.260	0.333	6.0	3.3 gm. in 10 days
Moderate heart failure	" 29	0.690	0.280	0.337	4.0	4.7 " " 23 "
	July 12	0.590	0.290	0.377	4.0	6.0 " " 36 "
Case 3						
Same, but severe failure	June 12	0.582	0.355	0.465	5.0	None
	" 14	0.660	0.330	0.406	4.0	1.4 gm. in 2 days
	" 19	0.580	0.270	0.355	4.0	2.2 " " 7 "
	" 28	0.568	0.275	0.365	4.0	2.7 " " 10 "
	July 10	0.590	0.270	0.352	4.0	3.3 " " 28 "
Case 5						
General arteriosclerosis	Mar. 18	0.510	0.300	0.420	4.0	None
	" 19	0.550	0.315	0.425	4.0	1.2 gm. in 2 days
Hypertension	" 20	0.560	0.305	0.408	4.0	1.2 " " 3 "
Chr. nephritis	" 21	0.570	0.295	0.390	4.0	1.4 " " 4 "
Coronary thrombosis	" 24	0.597	0.285	0.369	4.0	2.0 " " 7 "

formula, "Q-T" interval $= \sqrt{K \text{ "R-R" interval}}$, so that "K" is an index of the ratio, "Q-T" interval : cycle length.

5569

Biochemical Studies of Human Semen. III. Factors Affecting Migration of Sperm Through the Cervix.*

EDGAR G. MILLER, JR., AND RAPHAEL KURZROK.

From the Departments of Biological Chemistry, and Obstetrics and Gynecology, College of Physicians and Surgeons, Columbia University.

The viscous mucus which normally fills the canal of the cervix uteri presents a first barrier to the migration of spermatozoa from the vaginal lumen to the upper parts of the tract where fertilization occurs. When a mass of this mucus is exposed to the action of normal seminal fluid, the gross appearance is that of a lysis, with loss of viscosity and disintegration of the mass, apparently due to specific enzymic action.[1] This action is inhibited by the presence in the mucus of notable amounts of pus, leucorrheal cells, etc.

* This research was aided by a fund from The Chemical Foundation.

[1] Kurzrok, R., and Miller, E. G., Jr., PROC. SOC. EXP. BIOL. AND MED., 1927, **24**, 670; *Am. J. Obs. and Gyn.*, 1928, **15**, 56.