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# Peiping Section.

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## 5018

## Duration of Electrical Systole ("Q-T" Interval) in Cardiac Failure.

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In the effort to find an objective criterion of heart failure, the "Q-T" intervals in the electrocardiograms of 155 patients with heart failure have been measured previous to the administration of any drug. The results of Li and Cheer[1] on 178 normal Chinese subjects were available for comparison. The accompanying table gives the data in summary form. "K" is a constant in the formula, $S = K\sqrt{C}$, in which "S" is the "Q-T" interval in seconds, and "C" the cycle length in seconds. "K" is therefore a measure of the deviation of the "Q-T" interval relative to the cycle length, and may indicate the presence or absence of disturbances in the dynamics of the heart.

It will be seen from the table that "K" is greatly increased in the presence of heart failure, irrespective of the etiology. In the complete paper the data will be given full statistical treatment. Further results to be described later indicate that "K" is frequently increased in patients with heart disease who have slight or practically no failure. If the "Q-T" interval of the electrocardiogram be taken to have a relation to the duration of ventricular systole, the increased

[1] Cheer, S. N., and Li, R. C., *Chinese J. Physiol.*, 1930, iv, No. 2.

TABLE I.

*Average Values of "K" in Normal Individuals and Individuals with Heart Failure.*

| Subjects | Male | | Female | |
|---|---|---|---|---|
| | No. cases | Average "K" | No. cases | Average "K" |
| Normal individuals | 112 | 0.3743 ±0.00122 | 66 | 0.3877 ±0.00212 |
| Rheumatic heart disease with failure | 39 | 0.4227 | 28 | 0.4235 |
| Syphilitic heart disease with failure | 15 | 0.4400 | 2 | 0.4405 |
| Hypertension and arteriosclerosis with failure | 24 | 0.4405 | 24 | 0.4338 |
| Miscellaneous heart disease with failure | 16 | 0.4275 | 7 | 0.4320 |

"K" indicates a disturbance of cardiac dynamics which might well be found before clinical evidence of failure is available.

## 5019

## Surface Tension of Egg Albumin Solutions.

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Although it is generally believed that egg albumin is a capillarilly active substance, contradictory statements are often found in literature. According to Clark and Mann[1] egg albumin increases the surface tension of water in very dilute solutions but lowers it in more concentrated solutions. It is impossible to draw any conclusion from the works of early investigators because most of them did not pay any attention to the reaction of the solution which is an important factor as shown by St. Johnston[2] and qualitatively by Bottazzi.[3] The latter found the minimum surface tension to be at the isoelectric point, while the former showed the reverse to be the case. The present study deals with the relation between surface tension and the hydrogen ion concentration of egg albumin solutions together with

[1] Clark, G. L., and Mann, W. A., *J. Biol. Chem.*, 1922, lii, 180.

[2] St. Johnston, J. H., *Biochem. J.*, 1927, xxi, 1314.

[3] Bottazzi, F., *Colloid Chemistry*, Edited by J. Alexander, Chemical Catalog Co., New York, 1928, Vol. ii, p. 121.