

	Blood-pressure, mm.		Hg.
	Maximum.	Minimum.	Average.
Before operation, 45 days .....	110	80	90
After " first period, 43 days .....	120	100	111
" " second period, 26 days .....	140	110	121
" " third period, 31 days .....	150	110	125
" " whole period .....			120

He has gained from 12,770 grm. to 16,250 grm. and his urine has been free from albumin for three weeks, but is increased in quantity. A still more marked hypertension has been obtained in Dog 20, as the following table shows :

	Blood-pressure, mm.		Hg.
	Maximum.	Minimum.	Average.
Before operation, 23 days.....	135	95	117
After " 35 " .....	175	130	150

This dog is excitable and single readings are liable to vary somewhat on this account, but the comparison of the averages, based on eleven observations before and twenty-one after operation, or of either the highest or lowest readings, all show a true hypertension as a result of the reduction of functioning kidney substances by this method. This dog has a persistent albuminuria, with casts and red blood cells, and a daily urine quantity of about 500 c.c. The three remaining dogs have not been under observation long enough, or have not had sufficient reduction of circulation, to give definite results as yet.

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### The effect of experimental acute insufficiency of the right heart upon the volume of the organs.

By **H. C. TEACHER, M.D.**

[From the Laboratory of the Medical Clinic in Tübingen.]

If a small balloon be introduced into the right auricle or ventricle, its inflation interferes with the action of the right heart and renders the heart insufficient to perform its normal work. The effect of this upon the systemic circulation should be nearly similar to that caused by acute cardiac insufficiency in general. The changes in the volumes of the brain, liver, spleen, kidney, and extremity resulting from such cardiac obstructions were registered by oncometry in rabbits, cats and dogs.

The carotid blood-pressure, which was always registered as an

index of the degree of circulatory disturbance produced, falls abruptly to a lower level when the balloon is inflated. It then remains fairly constant until a final collapse occurs just before exitus.

The liver and brain increase at once in volume as the result of an acute passive dilatation caused mechanically by the increased venous pressure. In the other organs and extremity a moderate similar passive dilatation can be demonstrated if, but only if, they have been put in a state of active contraction before the cardiac obstruction is made. Thus when previously contracted directly, by the intravenous injection of adrenalin, or reflexly, by sensory irritation, their volume-curve rises during the period of cardiac insufficiency. But unless thus previously contracted, the kidney, spleen, intestine, and extremity decrease promptly in volume when the heart is obstructed. This decrease overshadows the relatively slight effects of the increased venous pressure, so that the presence of the latter is only manifest in a short "additional fall" of the volume-curve which occurs just at the moment when the obstruction is removed. This "additional fall" is synchronous with the drop in the venous pressure, and occurs before the organs begin to return to their normal size.

The decrease in volume of these organs, on the other hand, does not correspond to the fall of arterial blood-pressure, but may continue for as much as five minutes after the latter has reached its lowest point. It is due rather to an active contraction of the arteries and capillaries tending to compensate for the blood lost from the circulation by stagnation in the veins, liver, and brain.

The foregoing work was conducted in the laboratory of the Medical Clinic in Tübingen. I desire here to express my gratitude to Professor Romberg and his first assistant, Dr. Schlayer.