

of colorless crystalline masses which seem to consist of thick rhomboidal plates closely joined together in the form of rosettes. Sometimes they are so tightly packed as to form solid spherical bodies. One of us (Ophüls) has observed similar deposits in a human kidney in a case in which the renal pelvis was filled with large stones, apparently composed largely of urates. It seems most likely that these deposits are also deposits of urates. No evidence of stone formation in the pelvis was however present in the squirrels. The histological lesions in the squirrels are also similar to those in the human case mentioned. They involve the interstitial tissue very largely and have caused, in two cases especially, a very extensive development of cellular connective tissue with much destruction of kidney substance. The glomeruli in these areas show a slight fibrous thickening of their capsules. The rest of the tubules were normal except in one case in which there was some degeneration and evidences of proliferation in the tubules, similar to that found in the second type which resembles rat nephritis.

It is hardly necessary to say that arterial lesions were carefully searched for but there was no evidence of them in any of the specimens.

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**Experimental embolism of the arterioles in guinea pigs with hardened erythrocytes of Triton (*Diemy Aylus*) torosus and of *Chondrotus tenebrosus*.**

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The experiments were suggested by a desire to determine experimentally the changes, if there are any, which follow the complete obstruction of the vasa afferentia of the glomeruli of the kidney in mammals. A blocking of such small vessels may be accomplished by the use of the large erythrocytes of newts or salamanders which may be conveniently hardened in Orth's fluid, then washed in water, suspended in sterile salt solution and injected

by means of a hypodermic syringe directly into the left ventricle. The corpuscles after hardening measure about  $32 \times 12$  micromm.

It is necessary to inject a rather heavy suspension of the corpuscles, otherwise so few glomeruli become obstructed that it is difficult to find them in sections; on the other hand, as most of the corpuscles are carried into the brain, convulsions and death are apt to occur if too many are introduced into the arterial circulation.

In the spleen the corpuscles lodge in the central arterioles of the Malpighian bodies and do not cause any lesions.

I have never been able to find the corpuscles in liver or lungs in spite of the study of many serial sections.

In the kidneys also they are not very numerous as a rule, the careful study of serial sections being required to find them. They block the vas afferens completely, but in spite of this the glomerulus remains absolutely intact and no histologic lesions follow elsewhere in the renal tissues. This would make it very improbable that the collapse and fibrosis of the glomeruli in arteriosclerosis is due directly to the mechanical obstruction of the vasa afferentia by the arteriosclerotic process.

In the brain the corpuscles are much more numerous both in the cortex and basilar ganglia. Curiously enough in brain sections of an animal which was examined a month after the injection the foreign corpuscles appear to lie outside of the blood-vessels in the perivascular lymph spaces which would suggest a degree of permeability of these vessels hitherto unsuspected. Apart from doubtful degenerative processes in some of the cells, there were no lesions in the central nervous system either.

If it should be of any physiological importance, the method might be used to determine by a proper selection of corpuscles the exact size of the arterial capillaries while fully distended under normal blood pressure.