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The influence of gelatin upon the viscosity of the blood.

By **RUSSELL BURTON-OPITZ.**

[*From the Physiological Laboratory of Columbia University, at the College of Physicians and Surgeons.*]

Solutions of gelatin (1000 : 50) were introduced intravenously after the normal viscosity of the blood had been determined. It was found that the injections resulted in a very prompt increase in the viscosity. The following data may serve as examples:

Specific Gravity.		Viscosity.	
Before Inj.	After Inj.	Before Inj.	After Inj.
1.0565	1.0543	836	772

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The hemolytic effects of organ and tumor extracts.

By **RICHARD WEIL** (by invitation).

[*From the Huntington Fund for Cancer Research of the General Memorial Hospital, Loomis Laboratory, Cornell University Medical College, New York City.*]

The object of the present investigation was to determine the causes of, or factors contributing to, the secondary anemias of malignant tumors. The material made use of was supplied by Dr. Beebe, and consisted of sarcomata artificially implanted in dogs. The method was to crush these tumors in a mortar, mix them with ten times their weight of salt solution, and then stir mechanically for several hours. The hemolytic effect of this extract was tested on a 1 per cent. emulsion of the red cells of dogs. Preliminary experiments were made with extracts of kidneys of dogs prepared in the same fashion. It was found that the cause of the variability in the hemolytic effect of organ extracts, which has been noted by previous observers, is the varying admixture of blood. Kidneys prepared bloodlessly, by perfusion with salt solution, are hemolytic only in very low dilution, and after a long latent interval. Kidneys suffused with blood are as a rule very much more active; occasionally less so. The effects of blood have been analyzed by the separate addition of serum, emulsions of white cells (from artificial abscesses), and of red cells after washing, to the bloodless

kidney extract. In each case it was found that hemolysis was inhibited. The question therefore arises, why are kidneys suffused with blood as a rule more actively hemolytic than the bloodless organs? If their extracts are centrifuged, and all the solid particles, including the red cells, removed, it is found that the extracts are still deeply stained by hemoglobin. This is due to the destruction and solution of red cells, which is inseparable from the process of preparing the extract. The next step, therefore, was to determine the effect of adding red cell constituents to the bloodless organ extracts. This was accomplished by adding red cells to distilled water, and then bringing the solution to the strength of normal salt solution. Such a solution adds very markedly to the hemolytic power of the organ extract. Its manner of action seems to resemble that of complement, inasmuch as it is capable of breaking up the red cells only after a preliminary treatment with the organ extract.

Tumors were investigated in the same manner as the kidneys. It was found that the non-necrotic tumors are somewhat more hemolytic than are the kidneys, owing possibly to their blood content. They act, however, in other ways precisely like the latter, their action being diminished by the addition of serum and of white cells, and of being increased by the red cell extract.

Necrotic areas of tumors are extremely hemolytic, even up to dilutions of two to four hundred. This hemolytic activity is not affected by the addition of the blood components.

An experimental study was made of the action of a necrotic organ, by ligating the vessels and removing the organ after several days. The extract was hemolytic in a dilution of one in 6,000. It acted in other respects like the extract of necrotic tumors.

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The enzymotic properties of diplococcus intracellularis.

By **SIMON FLEXNER.**

[*From the Rockefeller Institute for Medical Research.*]

The brief vitality of many of the cultures of diplococcus intracellularis is a point of differential importance. Many strains, grown on a favorable medium, unless transplanted to a fresh