

A new culture medium for tissues grown *in vitro*.

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Harrison¹ demonstrated the growth of embryonic amphibian nerve tissue in the clotted lymph obtained from an adult frog. Burrows² demonstrated the growth of embryonic chick tissue in blood plasma obtained from the adult hen. In most of the experiments with tissue cultures since that time the blood plasma of various animals has been utilized either alone or in combination with certain tissue extracts as a culture medium. Some investigators, notably W. H. and M. R. Lewis, have used saline solutions, such as the Locke-Lewis solution, as a culture medium.

We have recently found that the peritoneal exudate of certain animals affords a culture medium which, in the experiments thus far made, gives evidence of being superior to any medium heretofore used. In the first place, this exudate apparently affords a more natural environment for the living tissues, with a corresponding increase in cell activity and length of survival *in vitro*. Also, the method of obtaining the exudate is comparatively simple. In the case of the frog, a considerable amount (about 0.5 cc.) may usually be secured from an anesthetized animal by drawing up the fluid from near the posterior end of the peritoneal cavity with a fine sterile pipette. In the case of the guinea pig, the animal is fastened to a board, and the exudate then secured by means of a capillary pipette inserted through the ventral surface of the body wall. The tip of the pipette should just barely reach into the peritoneal cavity. Suction is applied by the operator through a rubber tube attached to the pipette. The same animal may be used repeatedly for securing the exudate, and it apparently is very little disturbed by the operation. In order to secure a more abundant exudate various substances such as blood,

* This work has been done in connection with a grant from the National Tuberculosis Association.

¹ Harrison, R. G., *J. Exp. Zool.*, 1910, ix, 787.

² Burrows, M. T., *J. Exp. Zool.*, 1911, x, 63.

saline solution, etc., may be injected into the peritoneal cavity a few hours before the operation.

Finally, the exudate is more easily handled after it has been secured than is blood plasma, inasmuch as elaborate precautions are not necessary to prevent its clotting. In cases of the abdominal wall puncture, where the operation is not a clean one, a blood vessel may be pierced, and as a result, varying quantities of blood will be mixed with the exudate. This causes a more rapid clotting than with the exudate alone. The appearance of the exudate varies according to the number of white blood cells present. These may be readily thrown down by centrifuging, and the clear liquid used, or the exudate may be used without centrifuging. The experiments to date show that the white cells in the medium do not prevent the activity of the tissues *in vitro*. Experiments are in progress which, it is hoped, will furnish additional evidence on the use of various exudates as culture media.

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Therapeutic activity of sodium thiosulphate.

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Sodium thiosulphate was introduced into therapy several years ago by one of us,¹ in cooperation with Dennie and McBride, as a means of relieving certain types of intoxication, such as the metallic toxemias. The drug, simple as it may seem, has fully met the vital test of yielding prompt relief when administered soon after the development of the toxic symptoms.

Our interest has led us now for several years to a further study of its *modus operandi*. The authors² have previously reported on

¹ McBride, W. L., and Dennie, C. C., Treatment of Arsphenamine Dermatitis and Certain other Metallic Poisonings. *Arch. f. Derm. u. Syphil.*, 1923, i, 63.

² Groehl, M. R., and Myers, C. N., Sodium Thiosulphate in the Treatment of Dermatitis and Jaundice as a Result of Metallic Intoxication. *Therap. Gaz.*, 1924, x, 691.