produced by cell-free material. The present study indicates that the leucemic cell itself is capable of autonomous growth.

Rous[2] observed that tumor cells and their filtrates behave differently when brought in contact with immune sera, the former being neutralizable, the latter not. Similar observations were made by Sittenfield, Johnson and Jobling.[3] It may be assumed that this difference is due to the position of the agent, intracellular in one instance or free in the other. Our observations suggest the occurrence of 2 distinct processes: (a) a filterable agent causes neoplastic growth and (b) its product, the neoplastic cells are capable of autonomous growth.

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Effect of Suprarenal Cortical Extract on Nitrogen and Sugar Elimination in Depancreatized Dogs.

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In previous publications we[1] described a new calorigenic principle obtained from the suprarenal cortex or whole gland. The active substance is combined in the lipoid fraction and is extracted from the tissue with ethyl alcohol. After evaporation of the alcohol and extraction of the residue with benzene or ether, the active lipoid protein-free fraction is obtained. The water-soluble fraction of the lipoid contains epinephrin besides the active substance.[2] Epinephrin, however, is less firmly bound by the lipoid and can first be removed by prolonged washing or mild acid hydrolysis in the absence of oxygen. The active principle is unstable, but in the absence of oxygen we have kept a preparation active for 5½ months. In our earlier work the extract was administered orally but effects were not always constant. Given hypodermically, approximately one-tenth to one-fifteenth the amount is required and the results have been much more consistent.

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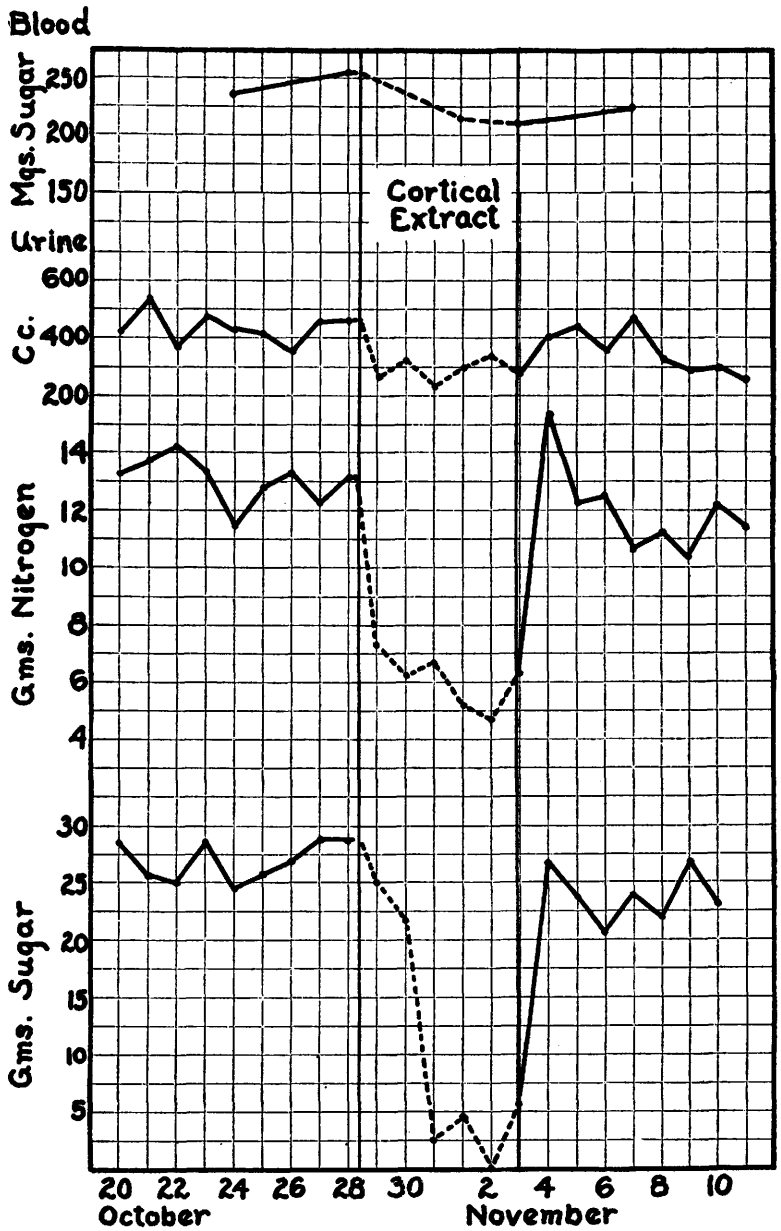
[2] Rous, P., *J. Exp. Med.*, 1913, **18**, 416.

[3] Sittenfield, M. J., Johnson, B. A., and Jobling, J. W., PROC. SOC. EXP. BIOL. AND MED., 1931, **28**, 517.

[1] Koehler, A. E., PROC. SOC. EXP. BIOL. AND MED., 1928, **26**, 296. Koehler, A. E., and Eichelberger, L., *Am. J. Physiol.*, 1929, **90**, 2.

[2] Koehler, A. E., and Eichelberger, L., *J. Biol. Chem.*, 1930, **87**, 38.

Besides the calorigenic effect, the preparation has been found capable of increasing the mechanical efficiency in certain cases of abnormal muscular fatigue as *myasthenia gravis* and Addison's disease. In such cases the abnormal creatine excretion also disap-



peared. Since these effects could possibly be explained by an increase in carbohydrate metabolism, we have studied the effect of the calorigenic principle upon the sugar and protein metabolism in depancreatized dogs.

The accompanying chart shows a typical experiment in a dog 3 months after operation. During this period the dog was placed on exactly 1,000 gm. lean meat plus pancreatin and 14 units insulin, which permitted a sugar elimination of 25 to 30 gm. daily. One cc. of cortical extract representing 45 gm. of whole gland given hypodermically daily caused a diminution in the urinary sugar and nitrogen. No constant ratio was noted between sugar and nitrogen elimination. In several experiments the decrease in the sugar elimination was greater than that which could be accounted for on the basis of decreased protein metabolism.

The decrease in the sugar elimination was constant in 8 experiments on 3 depancreatized dogs when a calorigenic active substance was given. In 4 of these experiments the extract was given by mouth and in 4 it was injected hypodermically. In the first 2 dogs the treatment periods were limited to 3 or 4 days so as to observe the return of the sugar and nitrogen to the level before treatment. In experiments on the third dog attempts were made to extend the treatment over longer periods. However, after 4 to 6 days of treatment the sugar elimination gradually rose again in spite of continuous treatment. A period of a week or more had to elapse before the urinary sugar could again be depressed. Death of the first 2 dogs has prevented our repeating the prolonged treatment effect on them.

Control experiments with epinephrin (0.25 to 1.0 mgm. hypodermically or 10 to 30 mgm. orally) have failed to give any depression of the sugar eliminated. Epinephrin given hypodermically elevated the sugar elimination in all cases.

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A Study Concerning the Incidence of Streptococcus Epidemicus.

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The occurrence of septic sore throat and of carriers of *Streptococcus epidemicus* during inter-epidemic periods has become a mat-