became bound during 24 hr. to proteins in serum.

The results are summarized in Table 1. No significant change was observed in the weight of the thyroid during the period. The average epithelial cell height in the control group, however, was significantly increased compared with the pre-operation values. In the animals treated with morphine there was no histological activation, as values before and after the operation remained unchanged. The thyroidal uptake of iodine-131 in the treated group was lower than in the controls. The difference is statistically significant ($P<0{\cdot}01$). The ability of the thyroid to bind iodine-131 to proteins was similarly lowered. The levels of protein-bound iodine-131 in serum were significantly lower than in the controls ($P < 0{\cdot}01$).

The increased epithelial cell height in the control group suggests that the removal of half the thyroid tissue itself stimulates increased secretion of thyroid stimulating hormone. The administration of morphine prevented the morphological activation and markedly inhibited the thyroidal uptake of iodine-131 as well as the formation of hormonal iodine. Since all these functions of the thyroid are regulated by the thyroid stimulating hormone, it may be supposed that morphine is also able to block the secretion of the latter.

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[1] Barraclough, C. A., and Sawyer, C. H., *Endocrinol.*, **57**, 329 (1955).
[2] Briggs, F. N., and Munson, P. L., *J. Clin. Endocrinol.*, **14**, 811 (1954).
[3] Sawyer, C. H., Critchlow, B. V., and Barraclough, C. A., *Endocrinol.*, **57**, 343 (1955).

An Abnormal Type of Lymphocyte

During the past four years I have noticed in normally coloured smears of blood, bone marrow and spleen puncture from 9 cases of hepatosplenomegaly with strongly marked granulocytopenia and lymphocytosis, a considerable number of cells closely resembling lymphocytes but showing several special features. I have never observed this type of lymphocytes in lymphatic leukosis, which I have studied for many years from the cytological point of view, nor in any other disorder of the lymphatic system.

These cells prevailed in smears of bone marrow. In smears of spleen puncture there was a great mass of cells consisting almost exclusively of this type of lymphocytes.

Fig. 1 shows these cells in blood, bone marrow and spleen puncture. Their size corresponds to the size of a large lymphocyte. The nucleus, which is generally larger than the nucleus of an ordinary lymphocyte and usually central, is round, oblong or kidney-shaped. Sometimes there are two round or oblong nuclei partly covering each other. The nuclear membrane is sharply outlined. The chromatin is delicate and of a fine network, clearly differing from the compact masses of chromatin in normal lymphocytes. Sometimes, however, there are small chromatin blocks divided from each other by clear zones similar to the nuclear pattern of an ordinary lymphocyte. Sometimes there is a barely perceptible nucleolus corresponding in character and location to the nucleolus of a rather young lymphocyte. The amount of cytoplasm varies, it is bluish in colour, and meshy, usually fringed on the whole periphery. Sometimes, however, the amount is much reduced, as if used up, with only small shredded particles conserved around the nucleus. Occasionally azurophil granules closely resembling those of an ordinary lymphocyte can be seen.

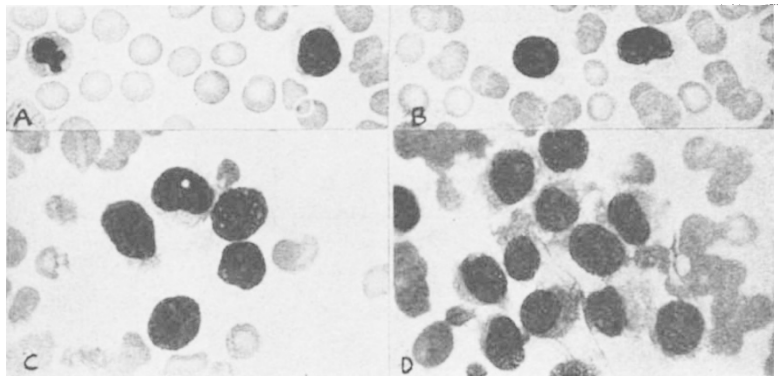

Fig. 1. *A*, Blood: a normoblast and abnormal lymphocyte with fringed cytoplasm
B, blood: an abnormal lymphocyte with fringed cytoplasm and an ordinary lymphocyte
C, bone marrow: abnormal lymphocytes with varying amounts of fringed cytoplasm
D, spleen puncture: abnormal lymphocytes with fringed cytoplasm

At first I was not sure whether these cells, which show a negative peroxidase reaction and stain only faintly red with methyl green and pyronin, belonged to the series of lymphocytes or not. The phase-contrast microscope, however, revealed the same character and arrangement of mitochondria as in a mature lymphocyte.

In the first five cases, the clinical course was acute. All five findings at autopsy disclosed a rare type of tuberculosis known as "sepsis tuberculosa gravissima[1]", "areaktive generalisierte Tuberkulose[2]", or "septicémie tuberculeuse foudroyante maligne[3]". The remaining four patients are still under clinical control. The clinical course is acute in one case, subacute in one case, and chronic in the other two.

As a routine designation in the hæmograms I have called these lymphocytes 'Dozet cells', after the surname of the first patient in whom I noticed them.

So far I do not know whether this lymphocyte is characteristic of "sepsis tuberculosa gravissima". This question remains to be answered by further observation. Yet it is of interest to direct attention to this cellular element not only from the morphological point of view but also as a diagnostic difference with respect to lymphatic leukosis.

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Dec. 18.

[1] Rennen, K., *Beitr. klin. Tbc.*, **53**, 197 (1922).
[2] Siegmund, H., *Beitr. path. Anat.*, **103**, 431 (1939).
[3] Potvliège, P., *Acta belg. clin.*, **8**, 203 (1953).