LYMPHATIC LEUKEMIA OCCURRING SIMULTANEOUSLY IN NEGRO BROTHER AND SISTER

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THIS report concerns a brother and sister, Negroes, a year apart in age, who apparently developed chronic lymphatic leukemia simultaneously. It is of special interest because: (1) we have found no report in the literature of instances of leukemia developing in members of the same family at so nearly the same time and age; (2) it is unusual for members of the same family to develop leukemia; (3) the occurrence of leukemia in the Negro race is less frequent than in the Caucasian, according to the report of Pizzolato[1] who reviewed a series of cases of leukemia at Charity Hospital, New Orleans, where a high percentage of patients are Negroes.

Case Reports

Case 1. A man, aged 40, was admitted to the Cleveland Clinic on February 22, 1946, complaining of swellings about the neck which had increased in size during the previous 9 months. The swellings interfered with breathing and swallowing and caused choking sensations. The patient also had been aware of lumps in his right armpit for the past month. His previous illnesses were noncontributory.

Pertinent physical findings included large, discrete, elastic nontender masses of enlarged nodes which were palpable in each side of the neck, in each axilla and in the groins. His tonsils completely obliterated the otopharynx; the spleen was enlarged to 10 cm. below the left costal margin. Roentgenograms showed enlargement of mediastinal nodes.

Laboratory examinations were normal except for the blood findings. The red cell count was 5,100,000 with slight anisocytosis, poikilocytosis and pallor. Nucleated red cells, 1/100; hemoglobin 13.5 Gm. per 100 cc. (88 per cent); color index 0.85. The white cell count was 110,500; neutrophils 20 per cent, lymphocytes 72 per cent; monocytes and platelets were decreased. A diagnosis of chronic lymphatic leukemia was made.

Roentgen therapy was instituted and given periodically to the neck, both groins and axillae, and to the mediastinum and epigastrium, depending upon the patient's general condition, size of lymph nodes, and blood counts. Improvement continued for about a year after which he failed rapidly. The white cell count ranged from 6000 to 45,000 while the red cells and hemoglobin were fairly normal. As the patient's condition became worse the white count rose to 140,000 with almost 100 per cent lymphocytes, 1,050,000 red cells and hemoglobin 25 per cent. Transfusions of whole blood were given. However the patient died in February 1948, 2 years after admission to the Clinic.

Case 2. The sister of the patient in the previous report was admitted to the Clinic 1 month later. The 41-year-old Negress complained of swelling in the neck, axillae, groins, and "a bad tumor" in the stomach. She had been taking penicillin for "bad blood" and skin trouble.

On observation generalized lymphadenopathy was found to be present, the spleen was enlarged to the pelvic brim, and the liver was enlarged also. A mass in the pelvis was presumed to be a fibroid tumor.

The patient's red cell count was 2,300,000 with moderate anisocytosis, and poikilocytosis (1/100 white blood count in nucleated forms). Hemoglobin was 30 per cent. White blood count was 553,000 with 97 per cent lymphocytes, some representing early forms. Platelets were decreased. Wassermann test was 3 plus. A diagnosis of chronic lymphatic leukemia was made.

Roentgen therapy was given periodically to the neck, axillae, groins, epigastrium, pelvis and spleen. The white blood count dropped to 5800 in 2 months and the patient felt much improved. Whole blood transfusions were given also.

In December 1946 she developed generalized vesicular dermatitis. Mucous membranes were pale and petechial hemorrhages were present in the mouth. This condition was diagnosed as generalized herpes zoster, frequently observed in chronic leukemia.

The patient gradually became worse and on September 9, 1947, the white blood cell count rose to 245,000. She died shortly thereafter.

Comment

The familial incidence of leukemia presents an interesting problem. The most comprehensive review on the subject was given by Ardashnikov[2] in 1937. He found that 31 instances of leukemia occurring in 2 members of the same families had been reported. He concluded that in some cases, at least, hereditary factors play a role in the etiology of leukemia.

Hornbaker[3] reported cases of chronic leukemia in 3 sisters in 1942. He believes that there is no sufficient evidence to explain the occurrence of familial leukemia on the basis of heredity, except for the known hereditary factor in malignant diseases among which leukemia is now generally classified.

Frech[4] reported cases of chronic leukemia occurring almost simultaneously in brothers. Sturgis[5] presented a case of subleukemic myelogenous leukemia in a 37-year-old man whose sister had died of subacute histiomonocytic leukemia 1 month previously. He believes that the occurrence of more than one case of a rare disease in a blood relative is due to chance.

We do not believe there is sufficient evidence to indicate that hereditary factors play an important role in leukemia. Our 2 cases probably were adventitious.

References

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