non-US group. Only 18 (43%) of 43 nonwhite patients were female, whereas 191 (63%) of 303 white patients were female. Ethnic origin was indicated for 144 white patients. Of these, 79% were north European, 6% Jewish, 6% east Europeans, 5% Spanish-American, and 4% south European.

Other Genetic Information.—In a written communication to the Registry (March 1, 1960), D. J. Fernbach, MD, called attention to a set of identical twins, both of whom developed blood dyscrasias related to chloramphenicol; a published report of these cases appeared subsequently.[7]

These identical twins, who were white males 3 years of age, had been given seven- to ten-day courses of chloramphenicol on several occasions during the preceding two years for severe upper respiratory tract infections.

Twin A had six to ten such courses, the most recent being about a month before diagnosis, at which time trisulfapyrimidines was also given. Purpura developed characterized by thrombocytopenia and a hypoplastic marrow, which, over the course of about two months, developed into pancytopenia. Three marrow transplants were attempted from twin B during the next two years, but without apparent improvement. Hemoglobin returned to normal after 1½ years of corticosteriod and androgen therapy. The bone marrow became less hypocellular, but thrombocytopenia and modern leukopenia still persisted six years after onset.

Twin B had received only four courses of chloramphenicol, the most recent course (this drug only) being given two weeks prior to diagnosis, at about the same time that purpura appeared in twin A. Isolated thrombocytopenia associated with a hyperplastic marrow, including normal numbers of megakaryocytes, became evident when he was being worked up in prepartion for the first marrow transplantation. He received no therapy and completely recovered within two weeks after chloramphenicol was discontinued.

BLOOD AND BONE MARROW

The reporting physician in each case indicated his diagnosis of the type of dyscrasia utilizing his usual criteria plus the admonition on the report form that leukopenia would consist of leukocyte counts of 3,000/cu mm or less. Further documentation was usually not present, and only rarely did members of the hematology panel find it necessary to change a diagnosis on the basis of such documentation when present.

All three major types of peripheral blood cells, erythrocytes, leukocytes, and platelets, were jointly depressed in 75% of 358 cases; two cell types were depressed in 6%; and a single cell type was depressed in 19% (leukocytes in 9%, erythrocytes in 6%, and platelets in 4%). Isolated erythroid cell depression was more common at ages 20 to 59 years (15% of 134 cases) than in younger (2% of 144 cases) or older (two [3%] of 80 cases) age groups, but no other age trends were apparent. Depression of granulocytes was the most striking component of leukopenia in most instances, but because the report forms did not always call for specific details in this regard, a more complete statistical breakdown is not given.

Bone marrow findings were available in 129 cases. In 3% of these, the marrow showed increased cellularity and in 7%, normal cellularity, often with other changes such as maturation arrest of the granulocytic series or vacuolation of erythrocytic precursors. Depression in number was noted for precursors of one of the major types of blood cell in 12% of cases; of two types in 5%; and of all three types (eg, hypoplastic or aplastic anemia) in 74%. Two marrows in the last category showed increased numbers of marrow lymphocytes, but on follow-up this apparently did not represent leukemia or lymphoma. Of 24 patients with only one or two cell types depressed in the blood, 2 (8%) showed a normal to hyperplastic marrow, 15 (62%) had one or two cell types depressed in the marrow, and 7 (29%) showed general marrow hypoplasia. Of 105 patients with all three cell types depressed in the blood, 10% showed a normal to hyperplastic marrow, 6% showed depression of one or two cell types in the marrow, and 84% showed general marrow hypoplasia.

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[7] Fernbach, D. J., and Trentin, J. J.: "Isologous Bone Marrow Transplantation in an Identical Twin With Aplastic Anemia" in *Proceedings of the Eighth International Congress on Hematology,* Tokyo: Pan-Pacific Press, 1962, vol. 1, pp. 150–155.