METHODS OF STUDY

The study *population* consisted essentially of all reported deaths with aplastic anemia or pancytopenia recorded as the underlying cause (International Statistical Classification No. 292.4) in the study period January 1957–June 1961. Before drawing the study *sample*, the study population was adjusted by excluding 34 deaths which did not occur in hospitals; by excluding 6 deaths in which pancytopenia was obviously secondary to a condition other than primary aplastic anemia; and by adding 17 deaths actually due to aplastic anemia but incorrectly coded to some other classification. Deaths which did not occur in hospitals were excluded from the study primarily because laboratory evidence would not be available to confirm the diagnosis of aplastic anemia. Hence, the number in the study population (283) differs from the number of officially reported aplastic anemia deaths (306) for the 4½-year period. The study sample was randomly selected and consisted of one-third of all hospital aplastic anemia deaths in the 3½ years. January 1957 through June 1960, and all of the hospital aplastic anemia deaths in the second half of 1960 and the first half of 1961. Initially 149 deaths were included. Eleven deaths (nine leukemias and two myleomas) were then excluded leaving a final study sample of 138 deaths.

Hospital records were the sole source of study information in analyzing deaths from aplastic anemia. The following information was extracted from the hospital records: (1) date of clinical onset of blood dyscrasia defined as appearance of persistent or progressive symptoms of bleeding, weakness or infection or of laboratory findings suggestive of aplastic anemia; (2) laboratory findings with emphasis on blood and bone marrow; (3) autopsy findings; (4) other diseases past and present; (5) family history; (6) exposures to drugs, chemical agents, and ionizing radiation; and (7) various characteristics of the usage of chloramphenicol.

The medical information recorded on death certificates is subject to inaccuracies. The significance of the results in a study like the present one depends on accuracy of diagnosis in the study sample from the viewpoint of hematological disease. The medical record data were reviewed by the study staff to evaluate the diagnosis, particularly to separate those cases with medical record evidence supporting a diagnosis of aplastic anemia, from those cases with satisfactory evidence of a diagnosis of another blood dyscrasia, and from those cases lacking sufficient evidence for any definitive hematological diagnosis. These categories were designated as 'aplastic anemia,' 'other blood dyscrasias' and 'undiagnosed,' respectively. The criteria for designating a study death as aplastic anemia were: (1) bone marrow findings consistent with aplastic anemia; (2) pancytopenia of peripheral blood; and (3) absence of conditions of which aplastic anemia (pancytopenia) might be only symptomatic.

RESULTS

The criteria used resulted in dividing the 138 deaths into three categories: (i) 86 of these met the study criteria for 'aplastic anemia'; (ii) 25 had 'other blood dyscrasias'; and (iii) 27 were 'undiagnosed'. In all study deaths in all three categories there was evidence of a severe blood disorder. The 86 cases classified as 'aplastic anemia' showed pancytopenia and bone marrow findings consistent with aplastic anemia. In the second category—'other blood dyscrasias'—there was pancytopenia in only 9 cases while bone marrow findings supported a diagnosis other than aplastic anemia in more than half. Myeloproliferative and myelofibrotic disorders predominated. The quantity and quality of the diagnostic medical evidence in the first two categories were good. However, in the second category—'other blood dyscrasias'—the medical evidence did not lead the physician who certified the cause of death to the diagnosis which the study team considered a logical consequence of available data.

Age-sex ratio

The age-sex composition of the study sample varied remarkably with the three diagnostic categories. The 'aplastic anemia' category had an equal number of males and females and a high proportion (30 per cent) of deaths in persons under