

lymphocytes, and 27 per cent mononuclears. After a period of rest this radiologist continued his professional activities, and a year later suffered a second attack of severe fatigue accompanied by paleness. There were no skin or mucous membrane hemorrhages and no enlargement of the palpable lymph nodes. The blood examination revealed 4.66 million erythrocytes, 75 per cent hemoglobin; and 36,800 leucocytes, of which 75 per cent were polymorphonuclear neutrophils, 2 per cent eosinophilic leucocytes, 1 per cent myelocytes, 6 per cent lymphocytes, and 16 per cent mononuclears. There were no nucleated erythrocytes observed. Because of these hematic changes the radiologist discontinued his work with roentgen-rays. In spite of this precaution a blood examination made two months later still showed 3.78 million erythrocytes, 80 per cent hemoglobin; and 31,000 leucocytes containing 70 per cent neutrophilic leucocytes, 7 per cent eosinophilic leucocytes, 5 per cent lymphocytes, and 18 per cent mononuclears. A slow amelioration of his blood condition occurred during the following year, at the end of which he had 3.98 million erythrocytes and 11,100 leucocytes, of which 54 per cent were neutrophilic leucocytes, 2 per cent eosinophilic leucocytes, 11 per cent lymphocytes, and 33 per cent mononuclear cells. The liver and lymph nodes were normal. A year later the blood still exhibited a leucocytosis of 20,700 cells with 54 per cent polymorphonuclear neutrophils, 6.7 per cent eosinophiles, 0.3 per cent basophilic leucocytes, 1 per cent myelocytes, 7.3 per cent lymphocytes, and 31 per cent mononuclear cells. This case represented, in the opinion of Aubertin, a typical example of a hyperleucocytosis of considerable duration, caused unmistakably by a prolonged occupational exposure to roentgen-rays. In view of the absence of an appreciable number of immature leucocytes in the blood at any time during the observation period, Aubertin did not feel that the blood condition possessed a preleukemic character.

A second case of equal importance, supplementing and extending Aubertin's observations in the leukemic direction, was reported by Schilling. This report dealt with the blood dyscrasia exhibited by a thirty-eight year old radiologist, who had been active in roentgen practice for ten to twelve years. This individual had not observed the proper protective precautions and, because of this negligence, suffered atrophic changes of the fingers, friability of the nails, atrophy of the testes, weakness, emaciation and pallor. The blood examination showed 4.00 million erythrocytes, 80 per cent hemoglobin; 37,000 leucocytes; and a mononucleosis of 76 per cent. In spite of a course of arsenic treatments, the leucocytes remained low, the erythrocytes dropped to 2.10 million, the hemoglobin to 50 per cent, and neuralgic pains appeared. Several months later the patient had swollen lymph nodes in the neck and the spleen was just palpable. The urine contained albumin and leucocytic casts. A specimen obtained by puncture of a lymph node showed metaplastic myeloid hyperplasia. The leucocyte count showed 10,000 white cells with 14 per cent myeloblasts, 20 per cent promyelocytes, 4 per cent myelocytes, 1 per cent band-