This patient with chronic aplastic anemia after chloramphenicol was observed for eight years. The terminal development of acute myeloblastic leukemia suggested a causal relation.

CASE 2. L.R. (N.E.M.C.H. 169–853), a 57-year-old woman, was first seen 15 years before admission for recurrent attacks of dysuria diagnosed as "cystitis." Multiple urologic examinations gave no evidence of obstruction or intrinsic abnormality. For 8 years before admission it had been her custom to take chloramphenicol for her attacks. Short courses taken *ad lib* always produced impressive clinical improvement. Over this period an estimated 500 to 700 capsules were consumed (approximately 175 gm). Routine blood counts performed during annual examinations were reported as "within normal limits."

An anal fistula developed after hysterectomy in February, 1964. She was intermittently treated with chloramphenicol until May, with little improvement. At that time the hemoglobin level was 8.4 gm per 100 ml, and the white-cell count 2500. No platelet count was recorded. A sternal puncture yielded a fatty specimen with marked hypocellularity. Erythroid precursors were almost totally absent. Granulocytic elements, although diminished, showed no "shift to the left" nor clusters of immature cells. No vacuolization of young forms was seen. Megakaryocytes were also markedly diminished. A diagnosis of chloramphenicol-induced bone-marrow hypoplasia was made.

The patient was treated with adrenocorticosteroids, androgens and blood transfusions from August, 1964, until February, 1965, without improvement of blood findings.

On examination in February, 1965, she appeared chronically ill with marked pallor, widespread purpura and pulmonary congestion. The liver and spleen were not enlarged. A major finding was a massive perirectal abscess. The hemoglobin was 7.3 gm per 100 ml, the white-cell count 5800, and the platelet count 21,000. The differential count showed 25 per cent myeloblasts. Bone-marrow aspiration revealed a hypercellular specimen completely replaced by myeloblasts.

Therapy with 6-mercaptopurine had no beneficial effect, and she died in another hospital. No post-mortem examination was performed.

In this case, chronic chloramphenicol ingestion was held responsible for the development of aplastic anemia. Acute granulocytic leukemia was observed one year later.

CASE 3. V.D., a 61-year-old woman, was first seen on October 26, 1964. At a routine checkup on October 5, when she was asymptomatic and showed no physical abnormalities, a blood count revealed leukopenia and granulocytopenia. The history revealed further that the patient had been plagued by several "heavy colds" every year and that she had been advised by her family doctor in August, 1963, to take chloramphenicol, 4 capsules daily, "at the earliest sniffle." In the course of the past 14 months she had taken by actual count 60 capsules (15 gm) of the drug. There was no history of any other drug or chemical contact and no history of x-ray exposure except for a few single dental x-ray examinations. The family and past histories were noncontributory.

On examination the patient looked very well. However, the liver edge was palpable 3 fingerbreadths below the right costal margin, and a few ecchymoses were present. The hemoglobin was 11.5 gm per 100 ml, the red-cell count 3,890,000, the hematocrit 37 percent, reticulocyte count 2.2 percent, and the platelet count 225,000; the white-cell count was 2200, with 15 percent neutrophils, 80 percent lymphocytes; and 5 percent monocytes. The sedimentation rate was 10 mm per hour. Bone-marrow aspiration revealed hypocellularity to normocellularity. Large numbers of primitive, pale-staining cells were present, and primitive monocytoid cells were increased. The diagnosis of hypoplasia of the bone marrow, with primitive cell (myeloblastic) leukemia, was made. An alternative diagnosis of "maturation arrest of the granulocyte series" induced by chloramphenicol was entertained. No therapy was advised except for discontinuance of the antibiotic.

The patient was observed at intervals during the following year. During the first 6 months she continued asymptomatic. Gradually, increasing pancytopenia developed. Symptoms of gingival hyperplasia, bouts of diarrhea and bouts of fever occurred in June and July, 1965. In mid-October, a severe nasopharyngitis, cellulitis of the left ear and rapidly progressive anemia appeared. The bone marrow was now almost completely replaced by myeloblasts and promyelocytes. Therapy with 6-mercaptopurine was instituted, and antibiotics and transfusions were given. In early December, 1965, generalized sepsis due to a coagulase-positive staphylococcus was present, and the patient died on December 7.