

advanced sclerosis. The liver shows all varieties of degeneration, including hæmolytic areas, as shown by the pigment in the macrophages of the hepatic cells.

Aplastic anæmia is very rare and has chiefly negative characteristics. The poikilocytosis, polychromatophilic, nucleated red cells and myelocytes are entirely wanting. The blood platelets are much diminished. The bone marrow of the long bones is yellow and pale and is entirely fatty, with few lymphocytes and red cells and an occasional mast cell, but no myelocytes, nucleated red cells or polynuclear neutrophils. The spleen and liver show no myeloid change, but are sclerotic and contain ochre pigment. The hypoplastic anæmias are forms intermediate between the plastic and aplastic types. Thus, the anæmia may be plastic at the onset and aplastic in its final stage, or there may be a discordance between the blood findings and the visceral. One cannot conclude from the blood as to the activity or inertia of the bone-marrow.

As to pathogenesis the chief theories are, (1) Grawitz's Theory of Hæmolysis or an exaggerated blood destruction, and (2) Hayem's Theory of Anhemato poiesis, or an insufficient production. Though the former seems the more plausible, the serum of pernicious anæmia has never been shown to be hæmolytic. Again, while the latter would account for the aplastic type, nevertheless, here, too, increased destruction is the chief factor, for it must be borne in mind that in the normal marrow the renovation of blood exacts very little work on the part of the hæmatopoietic organs, and, further, in this type the liver and spleen show signs of a severe cellular destruction. Hence, "pernicious anæmia is in the majority of cases, if not always, an anæmia by blood destruction."

The diagnosis is easy in most cases, the difficulty is to fix the point at which the "pernicious" character commences. Erlich says an anæmia of 2,000,000, or less, is pernicious. Labbé and Salomon have broader conceptions and include all anæmias with progressive loss of red cells, whether terminating fatally or otherwise, as of the pernicious type.

The prognosis is nearly always grave, nevertheless, there are a few undoubted recoveries reported. The gravity depends upon the cause; thus, pernicious anæmia from cancer is always fatal, while that from *Bothriocephalus* is curable. The immediate prognosis depends upon upon the degree of anæmia, though Quincke's case with only 143,000 red cells recovered! Vaquez and Aubertin believe that the aplastic type is always quickly fatal, while the plastic type with indications of a myeloid reaction can be cured by appropriate treatment. Contrary to Grawitz, Labbé and Salomon do not consider the presence of megaloblasts of necessarily grave significance.