ABSTRACTS

KRACKE, P. R.: (1932.) The Significance of the Leukopenias. U. S. Naval Med. Bul. 30: 16.

Much accumulated work has shown that the essential pathological process in agranulocytosis is primary in the bone marrow and that the infection is a subsequent and oftimes terminal event. There is also ample evidence to indicate that the loss of granulocytes is incompatible with life. Many cases show no oral ulcers, and for this reason the name agranulocytosis is more fitting than agranulocytic angina.

In studying the records of 8,000 private patients the author has found that the typical granulopenic patients are women between the ages of 40 and 60 and that they seem to have a fairly definite clinical syndrome which is characterized mainly by weakness, a tendency to fatigue, and exhaustion. This may result or be accompanied by a train of variable nervous symptoms. The attack of acute granulopenia seems to come on suddenly and is characterized by an unusual feeling of fatigue, sleepiness and malaise, with a slightly increased temperature and pulse rate. The occurrence of mouth ulcers at this time seems to stimulate the bone marrow, which results in a normal cell count and recovery.

In agranulocytosis that is complicated by purpura and hemorrhage, it is important that the condition be recognized as such and not confused with that disease known as simple idiopathic purpura hemorrhagica which apparently has its origin, not in the bone marrow, but in the spleen, although this point has not been settled. The practical importance in this differentiation becomes manifest when it is considered that splenectomy is a valuable therapeutic procedure in idiopathic purpura hemorrhagica, but would be of no value but of actual harm in thrombopenic agranulocytosis.

In a case presented and treated by splenectomy with a diagnosis of idiopathic thrombocytopenia, biopsy of the bone marrow six days before splenectomy showed a bone marrow dyscrasia, as evidenced by the absence of myelocytes and megakaryocites.

In the treatment of agranulocytosis (85 per cent mortality), the author recommends frequent transfusions, using, if possible, the blood of one who has recovered from the disease; X-ray therapy in one twentieth erythema doses applied to the long bones; liver extract by mouth, adenine sulphate, colloidal sulphur.—*R. M. Suárez.*

FAIRLEY, N. H.: (1932.) A note on the Treatment of Sprue with Special Reference to a High Protein Milk Powder. Trans. Roy. Soc. Trop. Med. & Hyg. 25: 297.

Evidence is steadily accumulating that Sprue is a disease of the gastro-intestinal tract characterized by the deficient gastric secretion of both HCl and Castle's bone marrow stimulating factors as well as by malabsorption of fats, glucose, and calcium in the small intestine. The theory of vitamin deficiency or monilia infection as the primary etiological factor is no longer tenable, and the basis of the gastro-intestinal derangement remains unknown.

The essentials of treatment as suggested by the author (1930) are:

(1) The institution of alimentary rest by appropriate dietary.
(2) The treatment of megalocytic anemia if present.
(3) The reinforcement of demonstrable deficiencies by such means as HCl, Calcium and vitamin D.

Both cows' milk and buffaloes' milk, which is widely used in the tropics, contain relatively a larger proportion of fat than is obtained in a normal diet, and when once the patient reaches five pints of cows' milk daily, the absolute quantity of fat present is actually in excess of the 100 gms. advocated for a healthy active man on a balanced diet of 3,300 calories (100 gms. protein, 100 gms. fat, and 500 gms. carbohydrate).

The milk powder especially prepared contains protein, fat and carbohydrates in the ratio 1.0 : 0.3 : 1.3.

Though the alimentary features are not always as dramatically relieved as with a high meat protein, low fat, low carbohydrate diet, the end results have been uniformly satisfactory in all cases.

Provided adequate quantities of liver extract are administered, blood restoration proves equally rapid whether a high milk protein or a high meat protein dietary is adopted.

This high protein milk powder (Sprulac) should have a special field of usefulness in the tropics where good quality meat in a satisfactory condition is often unprocurable, and where milk, owing to its high fat and bacterial content frequently proves an unsuitable diet for sprue cases.—*R. M. Suárez.*

GRAHAM, G. and JOHNSON, R. S.: (1932.) Anemia with Dysphagia. Quart. Jour. Med. 1: 41.

The authors have studied five patients in whom the syndrome of dysphagia and anemia was fully developed, and one in whom all the signs were present with the exception of dysphagia.

They conform to the usual type in that they were all women; the average age of the five with dysphagia was 41, while the one without dysphagia was 33. Although the mucous membranes were pale, the complexion in four cases showed the peculiar brownish-yellow color, differing distinctly from the lemon-yellow color of pernicious anemia. Five out of six patients complained of soreness of the tongue. The anemia was very severe in two cases, and all showed a secondary type, with low color-index and hemoglobin of less than 50 per cent.

It seems probable that the type of anemia in these cases is a new and peculiar one of specific type associated with a slight increase in the fragility of the red cells and with achlorhydria. It must be distinguished from scholuric jaundice which also shows increased fragility of the red cells by the absence of dysphagia in the latter. One of the cases suggests that dysphagia is a late symptom of the disease.—*R. M. Suárez.*

KEEFER, CH. S.: (1931.) Anemia Associated with Gastrointestinal Disorders. Clinical Considerations and the Value of Iron in Treatment. Ann. Inter. Med. 5: 740.

The author studied twenty patients with anemia associated with chronic dysentery, seven patients with anemia associated with hookworm infestation and four patients with anemia associated with tuberculosis of the intestines. In the cases of chronic dysentery he concludes that the anemia results from nutritional disturbances which are due to chronic diarrhea and inadequate diet. The part contributed by blood loss, disturbances in gastric function and infection is not essential.

The cause of the anemia associated with hookworm infestation, he states, remains obscure. In the past it has been customary to attribute the anemia to chronic blood loss (recent observations of Well's in dog's hookworm), to hemolytic substances secreted by the worms, or to infection following the intestinal lesion produced by them. It is likely that while chronic blood loss is responsible for a part of the anemia in some of these patients, such factors as malnutrition are of greater importance.

He considers malnutrition an important factor in the production of anemia in cases suffering from tuberculosis of the intestines.

Iron and liver therapy can accelerate hemoglobin regeneration in some of the cases.—*R. M. Suárez.*

MINOT, G. R. and CLARK, W. H.: (1932.) The Response of the Reticulocytes to Iron. Amer. Jour. Med. Sci. 183: 110.

Summary: A study is presented concerning positive reticulocyte response to the daily oral administration of iron in maximal amounts to patients with anemia specially due to chronic blood loss, dietary defects, gastro-intestinal disorders and pregnancy and to patients with chronic microcytic anemia of obscure origin.

The height of the reticulocyte rise is in general inversely proportional to the level of the red blood cells and hemoglobin directly before treatment, but the relationship is less exact for the anemias responding to iron than for the pernicious anemia in response to liver or potent substitute.

Infections and other complications hinder the action of iron in a way similar to that in which they hinder the effect of potent material for pernicious anemia.

Distinct rise of reticulocytes occurs with low hemoglobin values in response to iron when the red blood cell level is one at which insignificant reticulocyte increases take place in pernicious anemia. With red blood cells above 2.5 millions per c.mm. a greater rise of reticulocytes occurs in response to maximal amounts of iron than in pernicious anemia in response to adequate amounts of potent material, but when the red blood cells are below this number, the reticulocyte rise in response to adequate therapy to a somewhat similar number in the different types of anemia, as the hemoglobin level, decreases below about 10 gms. per 100 cc. of blood the rise of the reticulocytes becoming progressively greater than in "secondary" anemia, so that it is at least double when the hemoglobin is less than about 5 gms. per 100 cc. of blood.

Both the hemoglobin and red blood cell levels must be considered in evaluating the reticulocyte response to iron. For a given red blood cell level the reticulocytes will increase more the lower the hemoglobin and the increase of reticulocytes will be greater at a given hemoglobin level the lower the red blood cell count.

The exact type of case responding to iron plays a rôle in the degree of reticulocyte response. Cases with achlorhydria tend to have a slightly smaller response and to manufacture blood more slowly than comparable cases with free hydrochloric acid in their stomach contents.

The character of the curves yielded from plotting the data obtained from daily reticulocyte counts in response to iron, tends to differ somewhat from those obtained for pernicious anemia in response to liver or potent substitutes.—*R. M. Suárez.*