THE SUCCESSFUL TREATMENT

—OF—

ANAEMIA,

WITH EFFECT SHOWN BY INCREASE OF RED CORPUSCLES AND HAEMOGLOBIN.

—BY—

H. P. LOOMIS, M. D.

A NEW PREPARATION OF IRON

IN THE TREATMENT OF

ANAEMIA,

WITH EFFECT SHOWN BY INCREASE IN NUMBER OF RED CORPUSCLES AND AMOUNT OF HAEMOGLOBIN.

BY

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READ BEFORE THE NEW YORK ACADEMY OF MEDICINE,

SECTION ON GENERAL MEDICINE,

APRIL 18th, 1893.

Dr. H. P. Loomis Related a series of experiments to determine the value of Pepto-Mangan (Gude's) in the treatment of anæmia. It is a well-known fact, he said, that in the hæmoglobin of the red blood-corpuscle manganese is always found. Opinions differ as to its significance. At the present time the majority of observers attribute to it an oxygenating function, some claiming that quantitatively it is more active than iron. It certainly gives off oxygen more readily than iron. Hence it has long been held that its introduction into the body would increase assimilation.

As early as 1838 Kugler recommended the manganese salts in scrofula, for he had noticed in chlorine bleaching establishments that those who handled the manganese salts enjoyed an immunity from diseases of the skin, bones, or glands. For a long time, and by a number of observers, manganese has been recommended in anæmia and chlorosis, as it has been found by analyses of blood in these conditions that the manganese is diminished in some cases proportionately more than the iron. In spite of the high recommendation from various sources of the theoretical indication for manganese in anæmia it has not been extensively used on account of the

difficulty which attended its absorption. The various combinations of iron and manganese which I have employed have yielded far from satisfactory results; almost invariably they have produced digestive disturbances after a short time.

About a year ago my attention was called to a new combination of iron and manganese, which was being extensively used in Germany. Extraordinary results were claimed for the preparation in chlorosis and anæmia by Professor Ruehle, of Bonn, and Dr. Ascher, of Hamburg. I gave the preparation a careful trial, and the results obtained were exceedingly satisfactory. Believing, however, that the only accurate test of improvement in such conditions as anæmia is an increase in the amount of hæmoglobin and the number of red blood corpuscles, I made a series of examinations in regard to this point. In most of the cases in which the preparation was given the blood was examined before, during, and after its use had been stopped. The Thoma-Zeiss apparatus for counting blood-corpuscles was used. At least three fields of sixteen squares each were counted from each specimen of blood, and the average number of corpuscles in each square obtained. In this way the number of corpuscles in each cubic millimetre of blood was estimated. This is the most accurate method of determining the number of corpuscles in a given quantity of blood with which I am acquainted. The normal number of corpuscles to

each cubic millimetre of blood is estimated at 4,200,000.

The amount of hæmoglobin was estimated by Henocque's hæmatoscope, and also by the spectroscope. In normal blood there is about fourteen per cent. or fourteen grains of oxyhæmoglobin in each one hundred grains of blood.

To thoroughly estimate the advantages of the preparation eight persons with marked anæmia were selected, and careful notes of the cases taken while under treatment. No other medicine was given. In some of the cases the results obtained were much better than had previously been obtained with other preparations of iron.

The preparation of iron and manganese referred to is what is known as the "Liquor Mangano ferri Peptonatus Gudes"—or, as is written on a prescription, Pepto-mangan "Gude"—a clear, dark-sherry-colored neutral fluid, non-astringent and of mild aromatic taste, prepared by Dr. Gude, a chemist of Leipzig. The dose prescribed was a tablespoonful after meals in milk or in sherry wine. It is claimed that the combination of the iron and manganese with a peptone has decided advantages over the albuminate of iron in its permanency and ease of assimilation. Each tablespoonful of the mixture contained three grains of iron and one grain of manganese.

The following are the histories of the cases, with the results obtained:

Case I.—D. G——, female, aged seventy-eight, entered Bellevue Hospital suffering with pelvic cellulitis, the symptoms of which disappeared at the end of a week. The patient was fairly well nourished, but with an excessively pale, waxy color. Examination of blood showed eight per cent. of hæmoglobin and 3,900,000 corpuscles to a cubic millimetre. After thirty-four days taking the preparation the amount of hæmoglobin had increased to eleven per cent., and the corpuscles to 4,800,000.

Case II.—E. W——, aged seventeen, had the most profound anæmia after recovering from a severe attack of scarlet fever. Examination of blood showed six and one-half per cent. hæmoglobin, and 2,533,000 corpuscles to a cubic millimetre. After taking the preparation forty days, the amount of hæmoglobin had increased to ten per cent., and the corpuscles to 4,500,000.

Case III.—A. W——, female, aged twenty-two, had been excessively anæmic for over a year; complained of headaches, ringing in ears, dizziness, neuralgic pains, no organic lesion. Blood showed seven per cent. hæmoglobin and 3,520,000 corpuscles to a cubic millimetre the corpuscles themselves were changed, some being microcytes and poikilocytes. After twenty-three days the treatment was stopped as the hæmoglobin was normal in amount and the corpuscles had increased to 5,000,000 to each cubic mil-

limetre. The result in this case was the most pronounced of any.

Case IV.—Charles M——, aged twenty-one, subacute pleurisy lasting six weeks, very anæmic; no fever, some loss in flesh. Had taken syr. ferri iodidi for a month, with but slight improvement in general appearance. Hæmoglobin eight and one-half per cent.; corpuscles 3,800,000 to each cubic millimetre. At the end of twenty days, when the treatment was stopped, the hæmoglobin had increased one and one-half per cent., and the corpuscles to 4,600,000; the fluid in the chest had disappeared.

Case V.—F. B——, female, aged twenty-two, was admitted to the hospital suffering from insufficiency of the mitral valve. Presented the pale and anæmic appearance seen in cardiac disease. After the patient had improved so that she was up and about the ward she was put on the pepto-mangan (Gude). The examination of the blood at that time showed eight and one-half per cent. of hæmoglobin, and 2,600,000 corpuscles to the cubic millimetre. After taking the preparation twenty-five days the hæmoglobin was eleven per cent., and the corpuscles 4,000,000 per cubic millimetre.

Case VI.—B. M——, aged twenty-four, suffering from primary anæmia and menstrual disturbances. No organic lesion. Hæmoglobin ten per cent., corpuscles 3,000,000 per cubic millimetre. After taking the preparation forty-three days the amount of hæ-

moglobin remained at ten per cent., but the corpuscles had increased 1,200,000 per cubic millimetre.

Case VII.—C. V——, aged fifteen, presented the ordinary appearances of the anæmic girl at the age of puberty. No organic lesion. Hæmoglobin eight per cent., corpuscles 2,800,000. The examination of the blood after taking the pepto-mangan (Gude) forty days showed that the hæmoglobin was normal in amount, and that there were 4,000,000 corpuscles to each cubic millimetre of blood.

Case VIII.—M. M——, female, aged twenty-four; six weeks after ovariotomy; presented a markedly anæmic appearance. Had shown a slight improvement in color after taking Blaud's pills for three weeks. These were stopped, and the iron and manganese preparation given. Examination of blood showed eight per cent. hæmoglobin, and 3,200,000 corpuscles per cubic millimetre. After forty-eight days the hæmoglobin had increased two and a half per cent., and the corpuscles 1,300,000.

In most cases the pepto-mangan (Gude) had no constipating effect. Of the eight cases in which accurate notes were kept, all showed a marked improvement both in the increase in the amount of hæmoglobin as well as increase in the number of red blood-corpuscles. The average increase of the hæmoglobin was 2.2 per cent., and of the red blood-corpuscles 1,258.000.

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