

A CASE OF SPLENIC LEUCOCYTHÆMIA.

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G. H., aged forty-two years, resided in the South seventeen years, from the age of twenty to that of thirty-seven, during the last two years of which he suffered more or less continuously from fever and ague, and in 1861 he was confined to his bed for several months from the effects of malarial poisoning. For many months subsequent to this attack he was afflicted with a severe and very troublesome cough, attended with almost constant headache.

In 1872 he first came under my care for a severe pain in the region of the left hypochondrium extending to the left shoulder. The character of the pain simulated neuralgia, and promptly yielded to the tonic and sedative remedies frequently resorted to in that malady.

During the period from 1872 to 1876, he was a victim of what he styled, "bilious attacks," which were generally characterized by torpidity or congestion of the portal circulation, headache, constipation, loss of appetite, slow pulse, slightly furred tongue, and general malaise.

He was taken quite suddenly, about midnight, in March, 1876, with a severe pain in the right hypochondrium, and called in the nearest physician, who succeeded, after a time, by use of vigorous measures, in relieving him of his intense suffering. On the following day his physician detected a considerable swelling over the lower border of the liver, tender and painful on pressure.

It was his opinion, as well as that of the consulting physician, that it was a case of abscess of the liver, which they proposed to aspirate on the succeeding day. Previous to the hour appointed for this procedure, the external tumor suddenly collapsed and disappeared, and as its subsidence was soon followed by a profuse and intensely offensive discharge from the intestines, it was supposed to have discharged its contents into that channel.

Just what the tumor was, whether a suppurating gall-bladder, or an abscess proper, or something else, was not satisfactorily determined.

Two months later, in May, 1876, the patient began to complain of "fullness" and tenderness, and apparent hypertrophy of the spleen was observed.

During the succeeding summer and autumn the sense of oppression, tenderness, and the enlargement of the organ growing more and more marked, in obedience to the advice of friends he consulted a physician of Boston, under whose care he remained for several months. The treatment carried out by him consisted more especially of more or less frequent injections of ergotine into the spleen, which were followed by pain of greater or less severity, sometimes intense and continuing for

several hours, attended with vertigo and more or less syncope. The direct effect of the injections upon the spleen was a slight diminution in the size of the organ. It was so much enlarged that its lower border reached the point about midway between the crest of the ileum and the pubes, and laterally beyond the median line. The enlargement was uniform, the natural contour of the organ being perfectly maintained.

On February 28, 1877, I was summoned, and found him confined to his bed with the following symptoms: extreme vertigo and nausea on any attempt at moving or raising his head; great distention of veins of the head, neck, and upper extremities; face and eyelids slightly œdematous; pulse medium, full, slow, and soft; temperature 99°; tongue a little coated, but very dry; urine scanty and high colored; bowels constipated; occasional chills followed by slight febrile reaction; great thirst; and a most insatiable craving for food of any and every kind.

The treatment resorted to was a purgative dose of calomel, followed by saline laxatives in doses sufficient to insure regularity of the bowels, after which a tonic and gently stimulating course of treatment was adopted, combining phosphorus, quinine, iron, and brandy. For three or four days the giddiness and nausea considerably abated, after which it increased in severity, when, on about the ninth day of his illness, hæmorrhage from the stomach began, which persisted until his death, forty-eight hours later. At intervals of from one to three hours he would vomit blood in quantities varying from a gill to a quart. He lost in this manner almost the entire blood in his body. There were dark, tarry, bloody stools.

The autopsy revealed the following: the spleen was found to weigh sixty-eight ounces, and had pressed upon the greater curvature of the stomach so firmly as to cause a well-marked indentation into the substance of the spleen. The substance of the organ was quite hard or firm, somewhat mottled, and the Malpighian corpuscles were quite prominent. The liver, which did not extend much if any below its normal level, was found greatly thickened and enlarged antero-posteriorly, and, like the spleen, had been producing pressure upon the other extremity of the stomach. There were no evidences of abscess of the liver, as it was surmised there would be.

The mucous membrane of the stomach was softened, and the walls of the organ remarkably attenuated. There was but very little blood in any part of the body save in the stomach, which was nearly full. The blood was of a dark, muddy, chocolate color, so well described by Trousseau. The structure of the liver was normal in appearance. The diminution of the red and great increase of the white blood corpuscles so pathognomonic of leucocythæmia was remarkably apparent upon microscopical examination, the leucocytes being in great preponderance. The peculiar ravenous appetite of the patient was one which I believe

will generally be found to attend any considerable hypertrophy of the liver, when the substance of the organ remains otherwise normal.

The case is one of interest as illustrating the declaration that "the spleen is the birthplace of the *white* and the burial ground of the *red* corpuscles," and also as showing the chronic, steadily progressive course of malarial blood-poisoning, terminating in its destruction, decomposition, and death from hæmorrhage and exhaustion. The cause of the profuse hæmorrhage was doubtless chiefly mechanical, the enlarged liver and spleen producing sufficient pressure upon the blood-vessels to impede greatly the return of blood from the upper extremities, and, as Trousseau suggests, there was doubtless extensive rupture of the capillaries of the stomach, caused by their becoming clogged by the larger white globules or leucocytes becoming agglutinated. There were no other conditions or appearances to account satisfactorily for the rapid loss of blood.

RECENT PROGRESS IN PHYSIOLOGY.

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VASO-MOTOR MECHANISM.

In the report on the progress of physiology published in this journal in January, 1875, an account was given of the experiments which led Goltz to the conclusion that vascular dilatation in any part of the body, following section of the nerve supplying that part, is due to irritation of vaso-dilator nerve fibres, and not, as generally believed, to paralysis of vaso-constrictor fibres. Allusion was made also to the observations of Putzeys and Tarchanoff, pupils of Goltz, who found, in opposition to their teacher, that electrical irritation of the peripheric end of a divided sciatic nerve causes always a contraction of the vessels of the limb, which gives place only after several minutes to a dilatation attributable to exhaustion. In this report an attempt will be made to present briefly the principal results reached by various observers who have recently endeavored to contribute to our knowledge of the vaso-motor mechanism.

In the first place it should be mentioned that Vulpian, in his *Leçons sur l'appareil vaso-moteur*, which appeared shortly after Goltz's paper,¹ criticised the statements therein contained, and asserted most emphatically that in numerous experiments on curarized and chloralized dogs, he had always found a contraction and never a dilatation of the vessels of the foot to follow an electrical irritation of the peripheric end of the divided sciatic nerve. Equally decided results were obtained by Eulenburg and Landois² in their experiments on rabbits and dogs, the ef-

¹ Vol. ii., page 480.

² Virchow's Archiv, lxxvi. and lxxviii., and Centralblatt für die med. Wiss., 1877, page 104.