

iron, I added to it chloride of ammonium in doses of half a grain to each minim of the tincture. This was followed by the best results, for the gastric and hepatic symptoms rapidly disappeared, and for a considerable time the patient went on taking the mixture six times a day, so that he used two drachms of the tincture of perchloride of iron daily, without exhibiting the slightest sign of gastric or hepatic disturbance.

As a result of this treatment, to quote the words of Mr. Henry Handford, M.B., the clinical clerk, "a gradual but marked improvement in his general condition took place. His face lost its anxious expression, the palpitations became less distressing, the action of the heart less tumultuous, although still not quite regular. The pulse became much stronger and more frequent—seventy in the minute—and more characteristic of aortic regurgitation. The aortic diastolic murmur became less loud, but nevertheless was quite distinct. The mitral symptoms remained unaltered. The congestion of the liver was not so great, as shown by a decrease in the vertical dullness. The transverse dullness of the heart was unaltered." It may be added that the pallor and the signs of cerebral anæmia became less marked, and the patient left the infirmary in a condition which enabled him to resume his occupation.

This case afforded an example of a condition by no means uncommon, but of which Dr. Stewart has been unable to find a satisfactory description in books. The first glance at the patient leads one to notice the pallor, the very anxious expression, the restlessness, the pale lividity of the lips, the throbbing of the carotids, and perhaps of the temporal arteries; whilst the patient complains of giddiness, perhaps of headache, certainly of breathlessness, and of a debility that amounts at times to faintness. He is somewhat relieved by food, and unless there is some dropsical effusion to prevent it, he is easier in the recumbent position. But he obtains very little sleep. The explanation of his various symptoms is readily found. The pallor and the head symptoms are due in part to anæmic deterioration of the blood and partly to imperfect filling of the arteries supplying the face and brain. The throbbing is due to the ill-filled condition of the arteries, contrasting with their sudden temporary filling during the ventricular systole; while the breathlessness and the lividity are connected with the dilatation and the partial failure of the heart's action. Sometimes the distress is aggravated by the existence of dropsical effusion, and it seems to be specially severe when the pericardium is its seat. Such cases sometimes prove rapidly fatal by sudden syncope, and sometimes death follows upon a long agony, characterized mainly by symptoms of cerebral anæmia. These cases do not seem ever to recover spontaneously.

Treatment by the administration of cardiac tonics, and especially of iron, leads in many cases to decided improvement. The form which Dr. Stewart finds best is the tincture of perchloride, but it must be given in large quantity. He has gradually been led to give it in larger doses; sometimes even to the

amount of twenty minims every two hours, more frequently every four hours, continuing its use for days together. In many cases the patients speedily experience relief, and before long there is manifest improvement. As in the patient whose history is given, they are enabled after a time to leave the hospital and return to work.

But there is great difficulty in carrying out this plan of treatment from the gastric and hepatic derangement which so frequently follows upon the use of iron. During the past two years Dr. Stewart has sought to meet this difficulty by combining chloride of ammonium with the iron, according to the suggestion of a medical officer of the Indian service, to the members of which we are so much indebted for our knowledge of the value of that salt in hepatic affections. During that time he has repeatedly been thus enabled to administer iron in large doses in combination with chloride, to patients who otherwise could scarcely have used iron. It will be observed that in the case now recorded, the iron speedily led to dyspeptic symptoms, so that it was impossible to persevere with its use. But the addition of the chloride both relieved the existing dyspepsia and enabled us to continue to administer the iron in large doses, and for a considerable time. So far as he can judge, iron is the only remedy which could have saved the life of the patient at the time, and but for this effect of the chloride of ammonium, he does not know how he could have administered iron so freely as to suffice.

But the combination of perchloride of iron and chloride of ammonium is useful not in cardiac cases only.

Dr. Stewart narrates two cases, of which notes have been given him by his friend, Dr. James Ritchie.

A lady, aged 62, suffering from carcinoma uteri, had frequent attacks of metrorrhagia which had produced profound anæmia. The tincture of perchloride of iron was prescribed, but it produced so much gastric irritation that it had to be discontinued. After the stomach had recovered she was again ordered tincture of perchloride, with the addition of ten grains of the chloride of ammonium to every twenty minims of the tincture. This mixture was well received by the stomach, and was continued for some weeks without the slightest disturbance of digestion.

Again, a boy of 13, of feeble and rather strumous constitution, suffered from sore throat, gastro-intestinal disturbance, headache, giddiness, and almost daily epistaxis. The liver was enlarged so as to extend down nearly to the umbilicus, was tender, and had an uneven surface. The spleen also was enlarged, and projected three inches beyond the costal cartilages. Microscopic examination of the blood showed marked increase of the white corpuscles, with great diminution of the red, and an unusual amount of granular material. In this case it seemed highly probable that the iron alone could not be received, and accordingly the combination of iron and chloride was administered. The medicines