

corpuscles, no other disease would, consequently, be characterized by the presence of such general enlargement of red blood corpuscles.

The first and third of these cases have certain points of great similarity. For example, absence of emaciation, as occurs in primary anæmias generally; the pallor with the lemon-yellow color; the weakness; and the great reduction in red corpuscles. The points of difference are: The character of the urine; the relative proportion between corpuscles and hæmoglobin; the normal corpuscle of the chlorotic case as contrasted with the typically altered corpuscle of the case of pernicious anæmia; the anæmia of the chlorotic case resulting from deficient production of corpuscles without increase in destruction of them; in the other, the anæmia resulting from excessive hæmatisis in the portal system, which hyperactivity of the blood-forming medulla makes vain efforts to repair; lastly, the prognosis differs widely, generally favorable in the one, while the other terminates too often fatally, even when most judiciously treated.

The treatment of pernicious anæmia may be summed in one word—*arsenic*. Of course, good nourishment must be given, and intestinal antiseptics, as beta naphthol, may be of benefit, although I cannot say that I have had any good from their use. To this patient liquor arsenicalis was given every three hours, after nourishment, *mij* at first, and gradually increased to *mv*, so that she has been taking from 30 to 35 minims per day. This was continued for six weeks without any sign of disturbance of stomach, by which time the blood contained over 2,500,000 corpuscles per cmm., of almost normal appearance, the œdema and lemon color had disappeared, good color had returned to lips, tongue, and nails, and the woman was able to walk out. Appetite returned, and she was able to take ordinary diet with relish. The urine became normal. Then, lest the arsenic should cause peripheral neuritis, it was stopped and dilute muriatic acid and *nux vomica* are now being taken. If necessary, arsenic will be given again, but I have seen one case continue to improve uninterruptedly without its further administration. Arsenic probably acts on the corpuscles, enabling them to resist the poison, thus preventing their destruction.

The greatest patience and perseverance is needed in treating these cases until they begin to improve well. They find it difficult to take both medicine and food; vomiting is usually fairly frequent, and diarrhœa much more so. They are extremely weak and low spirited, so that much tact and hopefulness is needed in their management and nursing. If the case is far advanced and the stomach does not retain the arsenic, it would be well to resort to hypodermic injection for a few days, and nourishment by the bowel should be tried.

These cases can scarcely be diagnosed with certainty before the red corpuscles are reduced below 50 per cent. of the normal. The natural pink color of the finger nails will be preserved until this reduction is reached at least, so that if the nails are pallid we may be certain that at least 50 per cent. of the corpuscles are lost and probably more.

In giving a prognosis in pernicious anæmia, it must be borne in mind that there is great liability to relapses. The histories of cases in the past have shown that the majority have ultimately died notwithstanding the most judicious treatment perseveringly carried out; but more recent results have I think, been more favorable as arsenic has been given more perseveringly and more freely.

It will be found of practical use to remember that in the treatment of anæmias, as a rule, arsenic should be given in all cases in which the amount of hæmoglobin is in excess of the red corpuscles, and iron is indicated when the hæmoglobin is in equal or less proportion than the red corpuscles. In Case 1 arsenic was, I understand, given freely for over a month without any improvement, while the condition of the blood has improved somewhat with the free administration of iron; yet, of course, we do not expect much improvement in view of the disease of the heart and the resultant anasarca. Likewise in Case 3, iron had been given freely for a long time without benefit; of the results with arsenic I have already told you. Arsenic does equally well in some cases of splenic anæmia.

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