

4. Schultze's granules, so common in cachectic conditions, are absent.

5. In one case, nucleated red-blood corpuscles, such as occur normally in red marrow, were found.

In a large number of cases, hæmorrhages constitute an important symptom. Epistaxis is common, and this patient, as you heard, has had severe attacks. Retinal hæmorrhages frequently occur, and have been thought to be peculiar to the disease; but Litten* has shown that they develop in the anæmia of cancer, and after severe loss of blood. In several of the cases which have occurred in this city, there were small cutaneous extravasations.

The *etiology* of the disease is, in many cases, obscure; but in others, well recognized predisposing causes may be traced. Of the recorded cases, the large proportion appear to have been in women, particularly in Switzerland, where the disease appears to prevail extensively, owing, doubtless, to local conditions. Thus, of ninety-three cases reported from the clinics of Berne and Zurich,† sixty-seven were females and twenty-six males. In England, the majority of cases have been males. Of eleven cases which I know of as occurring in this city, eight were males.

Among the more important causes which have been assigned, are: 1. Pregnancy and Parturition. Many of the cases on record have developed during pregnancy or shortly after delivery. It may be doubted whether such cases can be classed under the heading Idiopathic or Essential. 2. Defective food. A considerable proportion of the Berne and Zurich cases resulted from this cause, and were more correctly examples of inanition anæmia.

It is quite striking, in reading over the records of continental cases, to note how frequently this circumstance is mentioned, and the majority of the patients appear to have been derived from the lower classes; while here, and in England, many of the cases have been among the well-to-do. 3. Gastro-intestinal troubles, atonic dyspepsia or diarrhœa,

have preceded the onset of the anæmia in a large group of cases. 4. Grief, mental shock or worry, have been mentioned by writers as probable causes. In one of the cases which occurred here (Dr. Gardner) the failure in health began after the death of two sons.

In the present case none of these causes can be assigned.

The *diagnosis* is arrived at only by the exclusion of all possible affections which might cause, or be accompanied by, great poverty of blood. You must carefully inquire into the history and mode of onset, interrogate the various systems and organs in a searching and methodical manner, when, if no definite disease can be detected, the diagnosis of idiopathic or pernicious anæmia will probably be correct. The affections with which it would be most liable to be confounded, are: 1. Cancer of the stomach, some instances of which run a very latent course. In the case you have here, the gastric symptoms have not been marked, there is no tumour, nor tenderness, nor marked emaciation, and the disease has lasted a much longer time than cancer would. 2. The appearance of the patient and the retinal hæmorrhages suggest Bright's disease—and would still more if the ankles were swollen, as formerly—but examination of the urine is negative. No casts, no albumen. 3. From certain other blood diseases the diagnosis might be difficult, but scarcely in this instance. In leukæmia there might be the same pallor, the poverty of red blood corpuscles, the vascular murmurs, and the irregular, slight pyrexia, but we would have in addition, splenic enlargement, and a great increase in the colourless elements. Hodgkin's disease and splenic anæmia, while presenting a blood condition, closely resembling that of pernicious anæmia, would be distinguishable by the glandular enlargements. It is not improbable, however, that there is a relationship between these affections, which resemble each other so closely in certain clinical features. Litten* gives a remarkable instance of anæmia following parturition, in which three days before death leukæmia of a high grade developed.

In the *morbid anatomy* of this affection there

* *Berliner Klin. Wochenschrift*, 1877.

† Müller *Die pro. per. Anämie, Zurich, 1877*; Quincke, *Volkmann's Sammlung*, no. 100; and *Ziemssens Archiv. Bds. xx. and xxv.*

* *Loc. cit.*