

## FATAL APLASTIC ANAEMIA.

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With Remarks by

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As aplastic anaemia is not very commonly recognized and may easily be mistaken for lymphatic leukaemia in an aleukaemic phase, the following case—although not confirmed by a necropsy—is worth recording. It is noteworthy that the grave anaemia followed an infection of the gums with the spirilla and fusiform bacilli of Vincent's angina.

Male, aged 30, married, a club patient, always healthy, had never had syphilis, and except for severe influenza when 18 years of age had not had any serious illness. At Christmas, 1908, he had a lump in the roof of his mouth, and a dentist then extracted 6 teeth; he visited the dentist regularly every fortnight, and had 15 more teeth out. Since the date of the first extraction he had an offensive discharge from the gums, tasting and smelling like bad fish. In June, 1909, I saw him for the first time professionally, and probed the gums every few days and gave him a carbolic mouth wash, with great improvement in the local condition. In the second week in September he went to Folkestone, but while there he rapidly became worse, losing his appetite and suffering from sleeplessness and palpitation. On his return he was intensely anaemic. On September 26th the Clinical Research Association reported that pus from the gums contained the spirilla and fusiform bacilli of Vincent's angina, and also numerous very minute Gram-negative bacilli which could not be identified, and a few Gram-positive cocci, possibly due to contamination. His blood was examined by the same association, with the following result:

|                        |     |     |                                  |
|------------------------|-----|-----|----------------------------------|
| Red blood corpuscles   | ... | ... | 840,000 per c.mm.                |
| Haemoglobin            | ... | ... | 17 per cent.                     |
| Colour index           | ... | ... | 1                                |
| White blood corpuscles | ... | ... | 12,000 per c.mm.                 |
| Differential count:    |     |     |                                  |
| Polymorphonuclears     | ... | ... | 12 per cent., or 1,414 per c.mm. |
| Small lymphocytes      | ... | ... | 55 per cent., or 6,624 per c.mm. |
| Large lymphocytes      | ... | ... | 32 per cent., or 3,840 per c.mm. |
| Eosinophiles           | ... | ... | 0                                |
| Mast cells             | ... | ... | 0                                |
| Myelocytes             | ... | ... | 0.8, or 96 per c.mm.             |

Three nucleated red blood corpuscles, all normoblasts, were seen in a count of 250 white cells. The red blood corpuscles were somewhat irregular in size.

At this time the spleen was not palpable, but the liver was somewhat enlarged. Except for slightly enlarged glands in the neck, there were no palpably enlarged glands. Some purpuric spots appeared on the back. On the blood count a diagnosis of aplastic anaemia was made, and he was treated with injections of arsenic and iron. He rapidly got worse, and died on November 2nd. A necropsy could not be obtained. On October 1st Dr. Rolleston kindly came down and helped me to diagnose the case.

## REMARKS BY DR. ROLLESTON.

Aplastic anaemia, though described by Ehrlich<sup>1</sup> in 1888, has not attracted much attention. Lvenson<sup>2</sup> in 1906 collected 11 cases, and Cabot<sup>3</sup> in 1908 tabulated 24 cases, and refers to 11 other cases which he does not regard as sufficiently complete; this case must also be considered incomplete inasmuch as, in the absence of a necropsy, the aplastic condition of the bone-marrow could not be proved.

Cabot considers aplastic anaemia to be closely allied to pernicious or Addisonian anaemia, and states that the distinction between the aplastic and the metaplastic (or pernicious) types of anaemia is one of degree only. French,<sup>4</sup> on the other hand, regards aplastic anaemia as a distinct form of grave anaemia; and Lazarus<sup>5</sup> considers it as a form of simple anaemia. The essential point about aplastic anaemia is the absence of any compensatory reaction of the bone-marrow (aplasia), and in this among other respects it differs from pernicious anaemia. As a result there is a diminution not only of the red blood corpuscles but of the granular leucocytes (the polymorphonuclears, eosinophiles, mast cells) manufactured by the red bone-marrow. There is, therefore, a relative increase of the lymphocytes; in 12 of Cabot's cases the lymphocyte

count averaged 72 per cent. In a blood film the blood picture of lymphocytic leukaemia is thus imitated. It may also be pointed out that in this case in an early stage the condition of the gums would have been compatible with a diagnosis of acute lymphocytic leukaemia. As further characteristics of aplastic anaemia Cabot gives its incidence in young persons, 75 per cent. of his cases being under 35 years of age; greater incidence in women than in men; its rapid course without any remissions; the greater liability to haemorrhages; a low colour index, the average of 19 cases being 0.8; and the absence of nucleated red blood corpuscles.

## REFERENCES.

<sup>1</sup> Ehrlich, *Charité-Ann.*, Berlin, 1888, xlii. <sup>2</sup> Lvenson, *Amer. Journ. Med. Sci.*, Philadelphia, 1907, cxxxiii, 100. <sup>3</sup> Cabot, *System of Medicine*, (Osler and McCrae), 1908, iv, 637. <sup>4</sup> French, *System of Medicine* (Allbutt and Rolleston), 1909, v, 733. <sup>5</sup> Lazarus, quoted by Lvenson.

## NOTE ON THE PRESENCE OF "BILHARZIA HAEMATOBIA" IN EGYPTIAN MUMMIES OF THE TWENTIETH DYNASTY

[1250-1000 B.C.]

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In a previous note published in this JOURNAL I described a process by which mummified tissues could be prepared for histological examination. I ventured to predict that it was highly probable that, by this method, one would be able to recognize pathological changes, such as cirrhosis, cancer, etc.

Thanks to the kindness of Professor Elliot Smith, Professor Flinders Petrie, and Professor Keatinge, I have obtained several organs from mummies of the eighteenth to the twentieth dynasty, and I may state at once that such diseases as atheroma, pneumonia, renal abscesses, and cirrhosis of the liver are plainly recognizable. In the renal abscesses and in other lesions I have stained microorganisms with methylene blue, fuchsin, haematoxylin, and even by Gram's method.

At the present time there is perhaps no disease more important to Egypt than that caused by the *Bilharzia haematobia*. So far no evidence has been produced to show how long it has existed in this country, although medical papyri contain prescriptions against one of its most prominent symptoms—namely, haematuria. The lesions of this disease are best seen in the bladder and rectum, but unfortunately these are just the two mummified organs which I have not been able to obtain so far. Nevertheless, in the kidneys of two mummies of the twentieth dynasty I have demonstrated in microscopic sections a large number of calcified eggs of *Bilharzia haematobia*, situated, for the most part, among the straight tubules. Although calcified, these eggs are easily recognizable and cannot be mistaken for anything else. I may add that I showed some of my sections to Professors Looss and Ferguson, whose paramount authority on such a subject cannot be disputed, and both confirmed my diagnosis.

I have examined microscopically the kidneys of six mummies. The kidneys of two were apparently healthy; the left kidney of another was congenitally atrophied; those of the fourth contained multiple abscesses with well-staining bacteria and other lesions, which so far I have not diagnosed; those of the fifth and sixth showed bilharzia eggs, and the latter had other lesions as well, which, owing to the shrunken state of the organ, I am unable to define accurately as yet.

Renal disease, therefore, was not infrequent among Egyptians living over three thousand years ago.

THE Henry Saxon Snell prize of the Royal Sanitary Institute for 1909 has been awarded to Mr. Alfred E. Wheeler, of West Ealing, and special prizes have been awarded to Mr. J. Roger Preston, Stourbridge, and Mr. E. Thomas Swinson, Feltham. The subject was the principles of heating and ventilating public buildings.