

A CASE OF SPLENIC ANÆMIA.*

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“ANÆMIA SPLENICA is a disease characterised by a progressive oligæmia arising without appreciable cause, which gives rise to grave disturbances of all the organic functions—to œdemas, hæmorrhages, irregular fever, followed constantly by death ; accompanied by notable tumefaction of the spleen and also of the liver, a tumefaction independent of any preceding morbid condition and not associated with any leuchæmic alteration of the blood.” Such is the definition of the disease as given by Banti in the year 1882, to whom is due the credit of having first given to the profession any complete account of the affection. Prior to his article, isolated cases had been described by Woillez as far back as 1856, and by Collin, Wunderlich and Griesinger, Mueller, Landouzy, Pye-Smith, and Strümpell, but they had received little recognition. More recently Bruhl has written an exhaustive account of the disease in the *Archive de Médecine* for 1891, under the title “Splénomégalie Primitive,” including in his article the history of fourteen cases, and “A critical Summary of the Literature on Splenic Pseudo Leukæmia ” appears in the *American Journal of Medical Science* for 1899 from the pen of Sippy.

The disease now finds a place in all text books of Medicine, but as yet the total number of recorded cases is small, according to Dr. West, it probably does not exceed thirty. The notes of the following case may therefore be of interest :—

On June 8th, 1902, a man aged 45 years was admitted into

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the Adelaide Hospital under my care. He lived near Tralee, in Co. Kerry, and was by occupation a farmer. His family history revealed nothing of importance, and until the commencement of his present trouble he had been a perfectly healthy man, with the one exception that about 30 years ago he suffered from an attack of typhus fever.

The history of his illness is very brief. He does not remember when he first felt any symptoms, but thinks that for the six months previous to his admission to hospital he had been gradually getting weaker—less able for his work about the farm—easily made breathless by exertion. He also felt what he described as a “gurgling pain” in the left side, and at intervals had rather sharp paroxysmal pain in the same side. He further noticed that his trousers round the waist were getting tighter, and that while given plenty of room for expansion by the local tailor, he had recently to keep one or two of the top buttons undone. So little did his symptoms trouble him that it was not until about three weeks before admission that he consulted a doctor. He had a more severe attack of pain in the side than previously, and his wife insisted on his obtaining medical advice.

When examined a tumour was found in the abdomen, and he was advised to come up to Dublin without delay. His appearance when I saw him was not suggestive of any serious mischief. He was a well-nourished man; the skin of his face bronzed by constant exposure, perhaps hid the anæmia which was present. His pulse was regular, good volume, 84 per minute; temperature normal; heart sounds healthy; lungs normal. On examining the abdomen a large prominent tumour was seen occupying almost the entire left side of the abdomen. On palpation it was smooth on the surface, but a distinct friction rub could be felt; the lower end was rounded and extended to within two fingers' breadth of the crest of the ilium; the upper end was lost under the costal arch. A distinct notch was palpable on the anterior edge, close to the umbilicus. The tumour did not move on respiration nor was it tender to the touch. It was uniformly dull on percussion over the tumour. The friction rub so easily felt was very distinct on

auscultation. The urine was acid, sp. gr. 1024, and contained a trace of albumen.

Concluding that the tumour was the spleen, no accurate diagnosis was possible until a blood count was made, so, accordingly, on the 11th June, with the assistance of Prof. J. Alfred Scott, the blood was examined. The following was the result :—Red blood corpuscles, 4,250,000 per cb. mm.; hæmoglobin, 60 %; leucocytes, 1 in 1000. The more exact examination of the leucocytes showed eosinophils, 4 %; poly morpho nuclear leucocytes, 39 %; mononuclear leucocytes, 4 %; lymphocytes, 53 %. The leucocytes were rather fewer than normal, but there was a distinct relative increase of lymphocytes, otherwise the blood conformed to the chlorotic type. The case was evidently not one of splenic leucocythæmia.

The absence of wasting and of secondary growths elsewhere was against malignant disease of the spleen. The patient had never been in a malarious country. There was no evidence of tuberculosis, nor were there any symptoms or signs suggestive of cirrhosis of the liver. There was no history of syphilis.

I therefore came to the conclusion that the case was one of splenic anæmia.

In Clifford Albutt's *System of Medicine*, the symptoms of this disease are given by Dr. West. He divides it into three stages :—

The initial stage in which the symptoms are those of extreme anæmia, with great loss of muscular power, and some wasting of muscle; though usually without emaciation.

The second stage is characterised by progressive enlargement of the spleen, and by attacks of severe pain in the splenic region; the anæmia is more profound, the loss of strength is extreme, and the patients are liable to repeated attacks of bleeding, especially from the nose; the temperature is raised and of a hectic character.

In the last stage the condition is one of progressive as-

thenia which ends in death ; there is in it nothing especially characteristic.

The affection occurs much more frequently in men than women in the proportion of four to one, and is a disease of adult life. The blood usually displays the character of that found in chlorosis, but as the disease advances the reduction in red cells becomes more pronounced. Perisplenitis is fairly constant, often giving rise to considerable pain and tenderness. Dr. Bruhl says : “ It is the painful crisis which is the first symptom which causes unrest. It is that which shows the commencement of the malady.”

The liver is not infrequently somewhat enlarged.

Vomiting, nausea, constipation or diarrhœa have all been noticed. The tendency to bleeding is pronounced, the hæmorrhages are rarely profuse and more of the nature of oozing.

Epistaxis is very frequent and usually one of the earliest symptoms.

The temperature is often elevated and of a hectic type, but Bruhl says that fever is unusual.

The nervous system yields no special symptoms ; urinary changes are indefinite ; sometimes albumen is present in small amount.

The circulatory system presents only such changes as are common to all forms of anæmia.

The one important and apparently almost constant symptom which was absent in the present case, was the tendency to hæmorrhage ; the patient gave no history of any bleedings, and he had certainly none while in hospital.

The progress of the case during the first fortnight in hospital was not reassuring. I tried arsenic in increasing doses, as the only drug likely to be of service, but with no good result. The patient was becoming less able for exertion of any kind, partly from increasing breathlessness, and partly from the discomfort

caused by the weight of the abdominal tumour. He also suffered considerably from pain in the side, and was perceptibly getting weaker. A blood count made on the 23rd June, showed that the red cells had further reduced to 3,500,000 per cb. mm., and the hæmoglobin to 50 %. The white cells were unaltered. I therefore decided to delay no longer, and asked Mr. Gordon to undertake the removal of the spleen. This he successfully accomplished, and though an account of the operation does not properly belong to this section of the Academy, I thought it would render the communication more complete to incorporate a brief summary of it as furnished to me by Mr. Gordon :—

“ On June 27th, 1902, I opened this patient’s abdomen by a long incision through the left rectus muscle. I found the enormous spleen free from adhesion on its outer surface, and the few omental attachments at the lower end were easily separated.

“ The division of the splenic ligaments proved both difficult and dangerous. There was nothing of the nature of a pedicle, for the peritoneal reflection at the hilum measured fully six inches vertically. The real difficulty, however, was due not to this, but to the fact that I could not turn over the spleen towards the right in order to bring into view the lieno-renal ligament with the splenic vessels which lie in it. This was owing to the presence of posterior adhesions and to the great bulk of the spleen itself. It was then necessary to pass the needle from in front, and unfortunately in doing so I injured the splenic vein. The resulting hæmorrhage was appalling, and had not Mr. Heuston, who was assisting me, very promptly compressed the vessels, the patient would have died. This compression, Mr. Heuston maintained until I had divided the remaining attachments between clamps and removed the spleen.

“ I passed separate ligatures round each clamp, and a silk ligature including all.

“ There remained some bleeding points higher up in the under surface of the diaphragm. Time was a matter of much importance for the patient was much collapsed. I thought it therefore best to pack the cavity with gauze and close the greater part of the

abdominal wound as quickly as possible. I should add that I introduced a large drainage tube through a stab puncture in the loin.

“ I think I have told all of importance relative to the operation, and the after history does not require detailed description. The gauze plugs were a source of some anxiety. I began by removing them very gradually—one or two strands each day—but in the end I was obliged to get on more rapidly as suppuration had occurred about them. The patient left hospital on August 16th and on August 24th, he took a walk of ten miles.”

On the 12th July, a fortnight after operation, a fresh blood count was made. The red cells were 3,750,000 per cb. mm., hæmoglobin 62 %, and white cells 6,300 per cb. mm., or 1 in 600. A month later the red cells numbered 4,400,000, the hæmoglobin 75 %, and the white cells were practically unaltered. After a stay of three weeks at our Convalescent Home, he returned to Kerry in apparently perfect health, a slight discharge still coming from a small sinus in the wound.

On the 13th September I received a letter from him, in which he says : “ I felt no inconvenience or fatigue whatever from the journey to Kerry ; and since I came home I have been constantly walking about or standing, and notwithstanding this, I feel much better in health (mentally and bodily) than I have felt for years. I am maintaining the good appetite I had in the hospital, am a sound sleeper, and I am, I believe, gaining in flesh rapidly. So much so that my friends tell me they had not seen me look so well for a long time.”

I did not hear from him again until the 22nd December, when in answer to a letter of mine asking him to come up to Dublin to let me examine him, he wrote : “ Since I left the hospital I cannot say I have had an hour's sickness. I am up every morning at six o'clock and do all the knocking about and marketing of the farm as well as ever I did. I am ploughing lealand for the last nine or ten days, and don't find it doing me any harm. The discharge is now stopped nearly a month, and I have also increased in weight over one and a half stone since I came home.”

On January 10th, 1903, he came up to town, and on the following morning I examined him and found him in perfect health; his weight had increased two stone. Prof. Scott kindly made an examination of the blood, which showed:—Red cells, 4,400,000 per cb. mm. ; hæmoglobin, 85 % ; white cells, 6,600 per cb. mm. There were a few nucleated red blood corpuscles, normoblasts. The differential count of the white cells revealed—poly morpho nuclear leucocytes, 61 % ; mono nuclear leucocytes, 6 % ; lymphocytes, 21 % ; eosinophils, 12 %.

It will be noticed that whereas before operation there was a considerable relative increase of lymphocytes, this count taken six months after removal of the spleen shows a relative increase of eosinophils. The lymphocytes differed from those usually found in normal blood, the proportion of cell body surrounding the nucleus being apparently much increased. The presence of normoblasts was also a new feature.

It only remains for me to mention the pathological appearance presented by the spleen after its removal, and for the following account I am indebted to Prof. Scott, who kindly undertook the examination:—

“ The spleen when removed showed a general enlargement preserving much the same shape as when normal. When laid on a table on the convex side, it became very slightly flattened, and measured 12 inches long by 8 inches wide, and 4 inches at its thickest part. It weighed 8 lbs. 2 ozs. The capsule was very considerably thickened in a few places over the surface. In the other parts it did not appear to the naked eye to be abnormal. Section showed it internally to be fairly firm, and much paler than normal. Some dark marks or lines, which gave a marbled surface to the section, was all that could be seen of the spleen pulp. The light masses were round, almost regularly one millimetre in diameter, and covered the whole surface between the lines of the spleen pulp, and to the naked eye, or with a pocket lens appeared to be malpighian corpuscles.

“ Microscopical examination showed that the malpighian corpuscles were enlarged until they touched. The spleen pulp was absent ; special stains showed a number of red blood corpuscles at the junction of, and slightly into the diffuse edge of the malpighian corpuscle, this being the cause of the dark line visible to the naked eye. Careful examination showed that there was no increase of the trabecular or the reticular connective tissue. The only connective tissue increase being found in the patches of old perisplenitis. The general appearance suggested lymphadenoma rather than any other cause of splenic enlargement.”

In reviewing the literature of the subject, it is at once apparent that under the term splenic anæmia are included more than one distinct affection. The confusion is probably due to the fact that a combination of anæmia with splenic enlargement is by no means infrequent.

The term has been applied to the cases which occur in infancy and early childhood, and which in nearly all instances are associated with either rickets or syphilis. It has been used to describe the condition that supervenes as the result of malarial infection. It is used synonymously with the term splenomegaly, a disease in which the enlarged spleen is firm in texture and shows microscopically a great overgrowth of the trabecular framework at the expense of the lymphoid tissue and malpighian bodies ; a disease which appears to be rather a primary affection of the spleen than a primary blood disease, and yet one which in its clinical symptoms very closely resembles the case I have brought under your notice this evening.

In my case, however, the pathological changes found in the spleen are totally different, suggesting, as Prof. Scott says, a lymphadenoma rather than any other cause of splenic enlargement, and when we compare the changes found in the blood with those usually found in lymphadenoma or Hodgkin's disease, the resemblance is very striking.

In both there is a diminution of red cells, with the low colour index or blood of a chlorotic type. In both the white cells if not actually diminished in number, are not more than normal, and in both there is a marked relative increase of lymphocytes.

For want of a better name I have entitled my paper "A Case of Splenic Anæmia," a more accurate title would perhaps have been "A Splenic Form of Hodgkin's Disease."