Dividing the not anæmics into males and females, there were :—

In 104 not anæmic females 64 murmurs = 61.5 per cent.
 „ 43 „ males 21 „ = 48.8 „
 that is, not a very great difference.

I noted in each case whether the murmur was loud or not. I met with in all 15 excessively loud or roaring murmurs.

In 22 anæmic ... 3 loud murmurs = 13.6 per cent.
 „ 31 slightly anæmic 5 „ „ = 16.1 „
 „ 147 not anæmic 7 „ „ = 4.8 „

My conclusions are the following :—

1. Venous murmurs are more common in anæmia than in other conditions.

2. They are present in about 50 per cent. of not anæmic young persons of both sexes.

3. Hence it follows that their presence in any individual case is not a matter of any diagnostic importance whatever.

4. Even the loudest murmurs are not peculiar to anæmia (though more frequent in that condition), and are therefore of but little, if any, importance. I noticed some of the loudest murmurs in very rosy, full-blooded individuals.

RESULTS OF ENUMERATION OF BLOOD CORPUSCLES IN SOME CASES OF SPLENIC ENLARGEMENT OF MALARIAL ORIGIN.

BY SURGEON J. F. EVANS, I.M.S.,
 Jubbulpore.

It is the generally accepted view that an increase in the number of the white blood cells occurs in malarial splenic enlargement, very similar to that which occurs in leucocythæmia. Hitherto I have failed to find an increase of the white blood corpuscles beyond physiological limits in any case of malarial splenic enlargement, whether this enlargement be of the transitory type arising during an attack of ague, or of the more permanent kind, where the organ presents itself as a firm, freely movable tumour in the left half of the abdomen. In the following table the results are given of the enumeration of the blood corpuscles in twenty-two cases of malarial splenic enlargement, in the majority of which the hypertrophy belonged to the more persistent type. The patients were men of native regiments, who sought medical aid on account of the debility induced by this disease or for ague.

Hayem and Nacet's hæmacytometer, as modified by Dr. Gowers, has been used for the work of counting the corpuscles, and Gowers's hæmoglobinometer for the estimation of the hæmoglobin.

A solution of phosphate of soda, of specific gravity 1025, was found to be the most suitable diluting fluid for use in the hæmacytometer. Solutions containing sulphate of soda, acetic acid, or common salt, produce great alteration in the appearance of the red blood corpuscles in this country, rendering the work of counting them very difficult.

The pathological change common to all of the twenty-two cases is a diminution of hæmoglobin, accompanied in the majority of cases by a corresponding diminution in the number of the red corpuscles. With two exceptions, the loss of hæmoglobin exceeds that of the red corpuscles, which have in consequence become of relatively less hæmoglobin value than that which they possess in health in a cold climate. In the number of the white corpuscles, on the other hand, no change beyond physiological limits appears to have taken place, whatever the nature of the splenic hypertrophy, whether fresh, soft, and congestive, or firm and of old standing.

It may be advanced that the number of cases given is too small to entitle any general deduction being drawn from the facts obtained. It would not, however, be difficult to increase their number very largely, and at the present stage they appear to justify the statement that the blood changes set up by malarial splenic hypertrophy and malarial cachexia have nothing in common with those which receive the name of leucocythæmia, for in the former the anæmia is due to loss

of hæmoglobin, not to increased formation of the white cell element of the blood.

Number of Cases.	Age in Years.	Service in Years.	Percentage of Hæmoglobin.	Percentage of Corpuscles (White and Red).	Proportion of White to Red Corpuscles.	Previous Medical History during Service.	Remarks.
1	31	9	60	88	1 to 523	Ague twice, syphilis twice	Marked anæmia of mucous membranes; spleen reaches to within 1½ inch of middle line.
2	48	18	75	80	1 to 770	Ague 27 admissions	Spleen 4 inches and liver 2½ inches below costal margin.
3	22	5	35	44	1 to 706	Ague 4 admissions, and dysentery 1	Marked anæmia; spleen 2½ inches and liver 1½ inch below costal margin.
4	21	5	70	62	1 to 900	Ague once	Spleen to within 1 inch of middle line.
5	19	1	65	79	1 to 630	None	Spleen reaches middle line.
6	24	2	75	112	1 to 650	Ague once	Spleen reaches to middle line anteriorly, and to a point 2 inches below umbilicus inferiorly.
7	20	1	75	109	1 to 550	Ague once	Spleen hard, reaches middle line.
8	39	21	90	93	1 to 800	Ague 11 admissions, syphilis 1 ditto	Not anæmic.
9	18	1	60	64	1 to 750	Ague once	—
10	22	4	65	90	1 to 1,000	Ague once	Spleen reaches to right of middle line.
11	22	1	70	74	1 to 500	Ague 4 admissions	—
12	18	1	80	80	1 to 300	Simple continued fever once	Spleen 5 inches below costal margin.
13	17	1	80	84	1 to 670	None	None.
14	23	1	70	80	1 to 500	Ague twice	None.
15	22	2	85	99	1 to 600	Ague once	None.
16	22	2	60	100	1 to 500	Ague twice, dysentery twice	None.
17	30	4	50	68	1 to 540	Ague thrice, dysentery 4 times	Spleen reaches middle line.
18	19	1	75	82	1 to 520	None	Spleen 3 inches below costal margin.
19	37	16	75	80	1 to 750	Ague 5 admissions, remittent fever once ditto	Spleen 4 inches below costal margin.
20	23	2	50	68	1 to 270	None	Marked anæmia of mucous membranes; dysenteric tendency; spleen 4 inches below ribs.
21	40	27	70	86	1 to 688	Ague frequently, dysentery once	Spleen reaches middle line anteriorly into the umbilicus inferiorly.
22	18	1	65	96	1 to 720	Jaundice once	None.

In malarial disease the hæmoglobin is less in quantity in each cell, and it also appears to be in less stable union with the cell stroma, for it crystallises more easily, and is more readily acted on by dilute solutions of common salt, soda sulphate, and acetic acid. When using a low magnifying power, I have often found it difficult to distinguish a tuberculated, swollen, red blood cell from which the hæmoglobin had been dissolved from a white corpuscle.

These conditions may account for the difference between the observations which form the subject of this paper and those which receive general acceptance. In ague, remittent fever, and simple continued fever, which may be regarded, especially the first named, as the initial and active manifestations of malarial disease, changes have been observed in the blood similar to those above described as belonging to malarial splenic hypertrophy.

In no instance have the white blood cells been found increased after an attack of ague, but in every case examined diminution of hæmoglobin and red blood cells was the pathological condition produced by the disease. This is shown in the following table, which gives the enumeration of the blood

cells at defervescence in a fairly typical example of each of the above-named three diseases :—

Disease.	Age in Years.	Service in Years.	Percentage of Hemoglobin.	Percentage of Corpuscles (Red and White).	Proportion of White to Red Corpuscles.	Remarks.
Remittent fever	21	1	60	83	1 to 1,000	Hyperpyrexia and delirium, with early defervescence.
Ague	18	1	55	60	1 to 720	Persistent tertian ague.
Simple continued fever	27	9	55	70	1 to 810	Defervescence on tenth day.

In connection with the subject of malarial infection, a short reference to some observations made by me on some healthy British officers and men who had never suffered from malarial fever since arrival in India one year and upwards previously, will probably be interesting.

In every case the microbe associated with malarial fever was present to a limited extent, generally in the "rosette" stage, rarely free; the number of red corpuscles was increased above the normal average of cold climates, and the hæmoglobin slightly diminished.

It only remains to add that the material for this paper was collected at different times during the past three years at Mandalay in Upper Burmah, at Meean Meer, and Jubbulpore.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

DEATH UNDER CHLOROFORM.

ALICE M. W. was admitted into the Sheffield Infirmary on March 13th with a large leucoma of the right eye, for which an iridectomy outwards was advised and consented to by the parents, she coming into the house for the express purpose of having the operation performed.

An anæsthetic being thought advisable, I administered chloroform, which the child took very well. I then called to Mr. Snell, who was in the adjoining room. After this the child had no more chloroform. The operation was performed satisfactorily, and, the child apparently recovering well, Mr. Snell went into the other room and saw several patients. The child was not deeply under the influence, as she gave signs of feeling during the operation, putting up her hand, etc. In two or three minutes breathing suddenly stopped, and she turned very pale, when I at once began artificial respiration, and called to Mr. Snell, who came at once. The child was inverted, ether injected, brandy and the battery applied, all to no avail, for she died in about ten to fifteen minutes, although artificial respiration was continued for two hours.

In the evening I made a *post-mortem* examination, and found the heart quite normal, empty; evidence of old pleurisy of both lungs, more particularly the right, the base of the left was very adherent to the diaphragm; other organs healthy.

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CASE OF RAYNAUD'S DISEASE.

G. F., aged 19, a footman, first consulted me on August 5th, 1889, for severe epistaxis and bleeding from the auricles. His father is said to have suffered from a similar condition of the auricles when a young man, and his feet were also frequently livid and swollen. He is a healthy man now of about 60. The mother is healthy but has chilblains. The patient who is temperate, and gives no syphilitic history, has been subject to chilblains and cold hands and feet for many years.

His present illness began definitely about three years ago after exposure to cold.

On August 4th he had profuse epistaxis, and also an abnormal amount of bleeding from a small scratch on the left auricle. Epistaxis had occurred previously four or five times during the past two years, on each occasion spontaneously, sometimes when in bed. The nose from the tip to the junction of the cartilages with the nasal bones was of a deep livid colour, cold, tumid, and slightly painful. No ulceration of the nasal mucous membrane was detected. The right ear was swollen, misshapen and livid, with small bullæ, and dilated and varicose vesicles in some places; the surface temperature lowered, but pain was slight. The whole auricle, excepting the concha, was affected both anteriorly and posteriorly. The left auricle was in a similar condition though not to such a degree. The hands were livid, tumid, and cold to the touch; the feet were not troublesome, but had been somewhat livid, tumid, and slightly tender. The condition of pallor alternating with the lividity was stated to be infrequent, and only lasted for a short time, during which there was more pain. There were no subjective eye symptoms, and ophthalmoscopic examination revealed nothing abnormal. There were abnormal subjective sensations of numbness, heat and cold and pain in the affected parts. The arteries were normal so far as could be made out; the heart was normal; there was no albuminuria. The treatment ordered was a mixture containing iron, arsenic, and digitalis, alum and quinine snuff, and protection of the parts affected.

On September 17th, the patient felt much stronger. The ears were almost of normal thickness, and livid only at the helix and its fossa, and the lobule on the right side, and the helix and its fossa on the left. There was profuse bleeding from an injury to a dilated capillary. On September 29th there was severe epistaxis in bed, nose very livid and tumid. On October 9th the ears had improved. Epistaxis again occurred; the nose was much congested; the hands were better. The interrupted current was applied daily along the course of cervical sympathetic, and in November he was much improved, but sudden severe epistaxis then occurred again.

Professor Grainger Stewart and Dr. Affleck kindly examined the patient, concurred in the diagnosis, and recommended perseverance in the electrical treatment with tonics.

In March, 1890, the patient was somewhat better, the epistaxis was less, the hands and feet were normal, but the ears still required to be kept protected.

Stoke Newington. J. CHRISTIAN SIMPSON, M.B. EDIN.

SUTURE OF TENDONS ELEVEN WEEKS AFTER DIVISION.¹

A PATIENT came to me on December 13th, 1889, with the history that, eight weeks previously, while engaged in trimming rose trees, the knife slipped and inflicted a transverse wound on the outer side of the left wrist, just above the thumb. This wound was allowed to heal by granulation, no advice being obtained until it was found that the thumb could not be moved voluntarily. The thumb was flexed into the palm and adducted, and the patient was unable to pick up a book or to hold anything unless the thumb was first lifted up and the article to be held was placed between it and the hand. Any variety of passive movement was possible, but the only active movement which remained was extension of the terminal phalanx, the thumb being rendered motionless owing to the unopposed action of the flexor longus pollicis, adductor pollicis, and the flexor brevis pollicis. At the base of the metacarpal bone there was a transverse scar, an inch long, on the outer surface of the left wrist, while just below this the distal ends of the tendons of ext. primi internodii pollicis and extensor ossis metacarpi pollicis could be easily felt, but the position of the proximal ends could only be indistinctly made out—5 inches off on the back of the forearm.

Mr. Bates kindly saw the case for me, and advised me to try to unite the ends of the tendons, and this was done on January 8th, 1890, just eleven weeks after the accident. The patient being under chloroform and an Esmarch's bandage

¹ Read before a meeting of the Worcestershire and Herefordshire Branch of the British Medical Association.