treatment as an out-patient. Throughout his stay in hospital he received, in addition to the treatment mentioned: from November 16 to 22 compound ferrous sulphate, B.P.C., 1 tablet thrice daily; procaine penicillin, 300,000 units daily; and on alternate days from November 13 to 19 sodium nucleinate, 1 ml.

After discharge he continued to make progress, as the haematological reports show. The ferrous sulphate was continued for two months, but other treatments were stopped.

The regular haematological findings are set out in the Table. Other findings were: November 16: clotting-time (Lee and White method), 27 minutes (normal, 4-7 minutes); bleeding-time (Duke's method), 19 minutes (normal, 2-5 minutes); blood Group O, D positive; icterus index, 2 units; prothrombin time (modified Quick's method using "difco" thromboplastin), 19 seconds (normal, 15 seconds). November 23: clotting-time, 20 minutes; bleeding-time, 17 minutes; icterus index, 2 units; prothrombin time, 17 seconds. On February 8 and November 15, 1950, the bleeding and clotting times were normal.

Haematological Findings

	12/11/49	15/11/49	16/11/49	18/11/49	23/11/49	30/11/49
Hb (100% = 14.8 g.)	28%	39%	40%	51%	58%	70%
R.B.C. ..	2,100,000	—	2,300,000	2,800,000	3,400,000	3,600,000
Reticulo-cytes ..	None seen	—	<0.1%	1%	2%	3%
W.B.C. ..	1,900	—	1,100	1,500	1,600	2,300
Neutrophil polymorphs	24%	27%	28%	22%	25%	43%
Large lymphocytes	16%	15%	16%	18%	12%	—
Small lymphocytes	60%	58%	56%	60%	61%	52%
Monocytes	—	—	—	—	2%	5%
Platelets ..	—	60,000	65,000	—	—	—

	7/12/49	14/12/49	28/12/49	8/2/50	15/3/50	15/11/50
Haemoglobin ..	71%	69%	80%	82%	95%	105%
R.B.C. ..	3,000,000	3,300,000	3,600,000	4,200,000	5,000,000	5,500,000
Reticulo-cytes ..	2%	3%	1%	0.5%	0.6%	0.3%
W.B.C. ..	2,400	3,700	4,000	5,400	5,300	5,000
Neutrophil polymorphs	66%	62%	59%	57%	60%	62%
Eosinophils	3%	3%	1%	2%	3%	6%
Lymphocytes	30%	30%	39%	37%	35%	30%
Monocytes	4%	5%	1%	4%	2%	2%
Platelets ..	75,000	180,000	170,000	150,000	200,000	200,000

Discussion

It will be seen that the platelets returned to normal in one month and the white cells in three months. These findings agree with those of Hart and Humble (1949) in their case of aplastic anaemia following neoarsphenamine, illustrating that the neutropenia is later in recovering. In the early stages the lymphocytes were divided into large and small, as a number of the former were atypical, possessing a large oval nucleus and abundant bluish-grey cytoplasm, with many azure granules. Eosinophils were not seen during the first seven examinations, although a minimum of 200 cells were counted. The title of aplastic anaemia is not given, as we have no proof of the state of the bone marrow. Sternal puncture was considered, but in view of the greatly prolonged clotting and bleeding times, and the strongly positive capillary resistance test in two minutes with pressure at 84 mm. Hg., it was thought that the risks involved outweighed the academic indications. We have therefore preferred to use the term "refractory anaemia."

Eagle states that in 10 of 11 patients with arsenical agranulocytosis who were given dimercaprol there followed an increase in the total white count and an even more pronounced increase in the proportion of poly-

morphs. He says that, in some, this change was apparent in two days and the white count approached normal in seven days. His eleventh patient, who showed in addition a reduction in the number of platelets, died on the fourth day. This author claims that dimercaprol had no effect in three cases of aplastic anaemia occurring as a complication of arsenotherapy. Although in our patient the peripheral blood did not show initially the extreme degrees of changes which have been noted in some cases, they were nevertheless well marked. The favourable response to treatment, although providing no absolute proof that it was due to dimercaprol, does suggest that it is worth a trial.

Summary

A case of "refractory anaemia" following arsphenamine diglucoside ("stabilarsan") administration is described. The peripheral blood showed anaemia, leucopenia (particularly granulocytopenia), and thrombocytopenia. Response was observed shortly after the usual therapy and dimercaprol, and almost full recovery occurred within three months.

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Medical Memoranda

A Case of Sjögren's Disease with Scleroderma

The following case is of interest on account of the occurrence of Sjögren's disease in the male and because, like Sheldon's (1938) case, it is associated with scleroderma and pigmentation of the legs.

Case Report

A man now aged 59 began to complain of symptoms in his legs and feet soon after the 1914-18 war. He had had "trench feet" in 1918, but very mildly, so that he was never in hospital for this, and significant symptoms developed only gradually over the course of years. They consisted of cramping pains in his feet and in his legs below the knees, always worse if the limbs were cold, if he stood for long, or if he walked very far. After standing his legs became swollen and discoloured. These pains had steadily worsened over the years, so that, whilst he did manage to work intermittently as a farm labourer until 1939, he had not been able to do so since.

In 1917 his teeth broke off and the gums became rotten, and in 1925 all the teeth were extracted and dentures fitted. Dryness of the mouth was first noticed in 1919 and has persisted ever since, so that he can swallow dry food such as bread only if he takes water with it. Dryness of the eyes was first definitely noticed a few months ago, when, being depressed about his legs, he found himself unable to weep; but it could have been present much before, and he has long known that his eyes would burn if exposed to a wind and that he dared not face the sun. The eyes have, however, never been acutely inflamed or ulcerated. Neither salivary nor lacrimal glands have ever been swollen, nor has he suffered from mumps. His skin, he says, is usually dry and often seems to be "hot and burning"; he sweats a little on the palms of his hands, but hardly at all on brow, axillae, and other parts. His hands are not unduly sensitive to cold, but his wrists and ankles will swell if he keeps them long in water. Otherwise his health has always been fairly good, although for the past 10 years or so there

has been some shortness of breath on exertion. He married in 1923 and had two children—a daughter now aged 22 and a son who died at 18 years of a stomach complaint. He has continued to have normal sexual relations with his wife about once a fortnight. He shaves each morning, but states that the beard is very soft. Family history: both parents and his only brother are dead; four sisters are alive. So far as he knew none had a dry mouth.

On examination he was seen to be of medium build and average intelligence, though rather depressed in mood. His body temperature was normal. There were no telangiectases. The skin everywhere was a little dry, but on the legs below the knees it was greatly thickened, shiny, inelastic, and patchily pigmented. The soles of the feet were hyperkeratotic, but were softened on the instep by a fungous infection. In each leg the pulsations of the popliteal and posterior tibial arteries could be felt, but not the dorsalis pedis, perhaps because of the thickened skin. Moderate varicosity of veins was present on each side. The finger-nails were normal, but the toenails showed trophic changes, and there was a small ulcer on the right shin. Body hair was scanty, especially in the axillae, and was of feminine distribution about the pubes. The genitalia were hypoplastic. The eyes showed evidence of old blepharitis, but not of any corneal ulceration. The mucous membrane of the mouth was obviously dry, and the tongue was dry, red, and wrinkled. The nares showed the characteristic changes of atrophic rhinitis sicca with some paranasal infection. The pharynx and larynx were quite dry too, except for a little sticky mucus on the vocal cords; the voice was correspondingly rather hoarse, and the patient stated that when he had a cold it usually disappeared completely. The salivary and lacrimal glands were not enlarged or unduly hard. The lungs and heart were clinically normal, and the B.P. was 150/90. Optic fundi and pupils were normal, and the only changes noted in the C.N.S. had been some diminished pain and touch sense in the lower two-thirds of the legs with absent ankle-jerks. Vibration sense was present, however, in the toes. The urine contained neither albumin nor sugar.

Investigations

Schirmer's tests for lacrimal secretion (Sjögren's technique) showed that none of the litmus paper beyond the lid margin became moistened by the end of five minutes, and that, after cocaineization of the cornea and stimulation of each nostril in turn by a camel-hair brush, moistening did not occur outside the lid margin on the left side, and on only 0.5 cm. on the right, in the course of two minutes. It was concluded that lacrimal secretion was grossly defective. A radiograph of the nasal sinuses showed an opaque left antrum, the other sinuses being denser than normal. A radiograph of the chest was normal, except for kyphoscoliosis of the spine. A barium swallow showed no sclerodermatous change in the oesophagus. Radiographs of the hands, knees, legs, and ankles were normal, but those of the feet showed general decalcification, especially of the terminal phalanges.

A blood count showed: red cells, 3,900,000 per c.mm.; Hb, 78% (11.5 g. %); white cells, 7,800 per c.mm. (polymorphs 74%, lymphocytes 16%, monocytes 8%, eosinophils 2%). The E.S.R. (Wintrobe-corrected) was 20 mm. in one hour. The blood Wassermann reaction was negative; Mantoux 1 in 1,000 was negative. Blood chemistry: calcium, 10.8 mg. per 100 ml.; inorganic phosphate, 3.8 mg. per 100 ml.; urea, 20 mg. per 100 ml.; glucose-tolerance curve, 120, 220, 220, 150, and 120 mg. per 100 ml. with slight glycosuria, but no acetoneuria, from one to two hours.

Liver function: Serum alkaline phosphatase, 6.9 units (Jenner and Kay); thymol turbidity, 14 units; flocculation, ++++ (later, 8 units and ++, respectively); hippuric acid excretion, 3.4 g. in four hours (normal, at least 3.2 g.); plasma proteins, total 8 g. % (albumin 2.8, globulin 4.5, fibrinogen 0.7 g.), later total 7.5 g. % (albumin 3.2, globulin 3.7, fibrinogen 0.6 g.). Biopsy: except for some wear and tear pigment, there was no abnormality in the portion of

liver examined, and in particular no evidence of Boeck's sarcoidosis. 17-ketosteroid excretion, 6.8 mg. in 24 hours. Fractional test meals: alcohol, no free acid produced; histamine, a little free acid, but all specimens very scanty and viscid. An electrocardiogram showed left axis deviation only.

In view of W. Stahel's claim (quoted by Parkes Weber, 1938) that great improvement occurred on treatment with vitamin A, this patient received 24,000 units daily by mouth for three months without any perceptible benefit.

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Glandular Fever and Chloramphenicol

Recently I had the chance of observing a case of glandular fever in which chloramphenicol had a striking effect.

A girl aged 12 years 9 months had a fainting fit at her boarding school on the evening of October 6, 1950, and next day a "cold" with a temperature of 101° F. (38.3° C.). The temperature slowly subsided, but the girl did not feel well. On the evening of October 14 another fainting fit occurred, and her temperature immediately afterwards was 102° F. (38.9° C.). She returned to her home the next day and was seen by me in the evening. She complained of backache and pain in the neck. Her temperature was 99.8° F. (37.7° C.), her face was flushed, with marked pallor of the naso-labial triangle, the right tonsillar gland was enlarged and tender, the tongue was furred, and a few red and enlarged lymph follicles were present on the posterior pharyngeal wall; chest, abdomen, and reflexes were normal.

October 16: Morning temperature 104° F. (40° C.), severe headache, tonsillar gland more painful and swollen.

October 17: The temperature, which had gone down to normal the previous evening, rose again to 104° F. at mid-day; there was tenderness of small axillary and inguinal glands.

October 18: Large glandular packets on the right in the anterior and posterior triangles, very tender; spleen just palpable and very tender; W.B.C., 18,200 (polymorphs 13%, lymphocytes 64%, monocytes 8%, rod shapes 8%, eosinophils 7%).

October 19 and 20: Swinging temperatures with several spikes of over 103° F. (39.4° C.), new groups of tender glands appearing on the left side of the neck.

October 21: Start of treatment with chloramphenicol, 250 mg. every six hours.

October 22: Temperature normal, general well-being, no new glands appeared; some of the old ones and the spleen still tender.

October 24: Temperature remained normal, all glandular swellings disappeared, except the right tonsillar gland, which was greatly diminished in size and not now tender. Hb, 65%; R.B.C., 3,900,000 per c.mm.; W.B.C., 11,200 (polymorphs 37%, lymphocytes 48%, monocytes 5%, rod shapes 8%, eosinophils 2%). The child had received altogether 5 g. of chloramphenicol.

November 3: Child well. Indurated right tonsillar gland palpable. Hb, 80%; R.B.C., 4,300,000 per c.mm.; W.B.C., 8,600 (polymorphs 33%, lymphocytes 55%, youth forms 5%, rod shapes 6%, eosinophils 1%).

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