narrowing immediately anterior to the nucleus. The cytoplasm was relatively clear, and showed an alveolar structure. The posterior end was usually blunt, and the large rounded blepharoplast was terminal or nearly so. The undulating membrane was poorly developed, so that the flagellum ran usually along the body in a more or less straight line, and there was always a long free portion to the flagellum. The nucleus was long, oval, and often divided into several pieces.

A hundred trypanosomes taken as they came from each of the films were drawn with the aid of a camera lucida and measured (see Table I). Of these 200 parasites the longest measured 24 μ, the shortest 18 μ, and the average worked out at 20.7 μ. The numbers of trypanosomes of each length were almost exactly the same in the two films. These measurements indicate clearly the monomorphic character of the parasite.

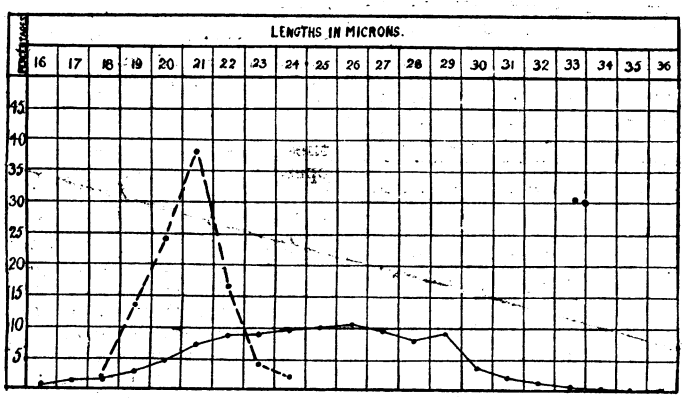

CHART 1.—The distribution according to length of *T. gambiense* (continuous line), and the monomorphic trypanosome (broken line) found in the blood of a native of the Gold Coast.

TABLE I.—*Measurements of Length of the Monomorphic Trypanosome found in the Blood of a Native of the Gold Coast.*

Materials.	Number Measured.	Lengths in Microns.							Average Length in Microns.
		18	19	20	21	22	23	24	
First specimen ...	100	3	14	25	37	17	3	1	20.6
Second specimen ...	100	1	13	23	39	16	5	3	20.8
Totals	200	4	27	48	76	33	8	4	
Percentages ...		2.0	13.5	24 0	38.0	16.5	4.0	2.0	20.7

In order to emphasize the profound difference between this trypanosome and the organism usually found in human trypanosomiasis (*T. gambiense*), I have plotted as curves the measurements of length by percentages in Chart I, and have added as contrast those for *T. gambiense*, as given by Stephens and Fantham.

The morphology of this trypanosome very closely resembles that of *T. vivax*. The small number of measurements that have been made so far suggest, however, that it is a little smaller, the crest of the curve occurring at 21 μ instead of at 23 μ. The trypanosome appears, indeed, to be intermediate between *T. uniforme* and *T. vivax* as regards its morphology, but further examinations will have to be made before any definite conclusion can be arrived at.

T. vivax is an exceedingly common parasite of domestic animals in West Africa, and was found in no less than 76 per cent. of the hump-backed cattle examined by me at Accra. It would therefore be a serious matter if this species were proved to be pathogenic to man. Further investigations are in progress, and it is still possible that the strain may be obtained for laboratory experiments, although as the patient has been apparently free from parasites for a long time the chances are not very great. Meanwhile, as I expect to be leaving the Gold Coast almost immediately, this preliminary note is published in order to draw attention to the fact that there is in West Africa a species of monomorphic trypanosome capable of infecting man.

THE SIGNIFICANCE OF THE LYMPHATIC GLANDS SITUATED ON THE ANTERIOR SURFACE OF THE ATLAS.

BY A. ERNEST MAYLARD, B.S.LOND.,
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ONE, perhaps, of the commonest places for tuberculous lymphatic glands is just below the angle of the jaw—that is to say, at the upper part of the anterior triangle. The reason for this is probably to be found in the greater readiness with which they are infected by lymphatics passing from the mouth, and more particularly from decayed molar teeth. But the tonsils and upper parts of the pharynx may also be regions from which septic matter may be conveyed. From whatever source, however, derived it is certain that the infection very frequently extends not only to the more superficially situated glands but to those lying deep in the cervical region, as deep as the transverse process of the atlas.

The clinical significance of this implication of the deeper glands lies in the fact that treatment applied solely to the superficial ones will leave the deeper still untouched and a probable source of future trouble. It is a very common experience to be asked to deal with a "sore" in the upper part of the neck that will not permanently heal. The story usually obtained is that a glandular abscess has been opened, and possibly its walls scraped; that the wound healed but then broke down, and a small discharge ensued for a time, followed again by healing. This ding-dong condition of matters goes on for months, until the case at last comes into the hands of the operating surgeon for radical treatment. What is then found is that a circuitous sinus conducts down to a caseating and suppurating gland lying on the transverse process of the atlas. After this has been removed permanent healing takes place.

It is often solely for desired cosmetic effects that the practitioner is tempted to make a small incision into the superficial, enlarged, suppurating glands; and possibly he puts in a small drainage tube or lightly stuffs the cavity. His chief object is to produce as small a scar as possible. But, considering the protracted course which the condition is only too likely to take, there can be but little doubt that the best cosmetic results are obtained by the radical treatment—that is to say, by a free incision and a complete extirpation of the deep-lying glands. The dissection is often by no means easy, and, although quite free from danger in experienced hands, it should not be lightly undertaken. Both the jugular vein and the spinal accessory nerve are liable to be implicated; and when there is much in the way of periglandular inflammation and adhesions, one or the other, without due care, may be injured.

DEATH AFTER SALVARSAN.

BY
MANECK D. WADIA, M.R.C.S., L.R.C.P.,
CAPTAIN I.M.S.,
MEDICAL OFFICER, PRISONERS OF WAR CAMP, SUMERPUR, RAJPUTANA.

I AM much obliged to the Director Medical Services in India for permission to publish the following case, and to Captain P. Hayes, R.A.M.C., for comments:

A sepoy, K——, aged 23 years, was admitted into hospital on May 22nd, 1916. He had a chancre on the penis about six weeks before, which healed under treatment. There was nothing important in his past history. He was thin and somewhat anaemic, and presented a typical secondary rash on the body, with mucous patches in mouth and general adenitis. Nothing abnormal was detected in the chest and abdomen and the urine was normal. A dose of castor oil was given and he was kept on milk diet. Salvarsan 0.5 gram was given intravenously at 10 a.m. on May 23rd. He had a good deal of vomiting and

diarrhoea, and rapid, feeble, but regular pulse during the day, and was rather restless during the night. Next morning the vomiting had stopped and the pulse was stronger. He had five motions during this day but no vomiting. On May 25th the pulse was almost normal; the urine showed a fair cloud of albumin. On May 27th he was all right but weak.

On the morning of the 29th he was deeply jaundiced; the stools contained bile; the urine contained traces of bile and albumin. He was given calomel 3 grains, followed by magnesium sulphate ½ oz. three hours later, and was ordered milk diet.

On May 30th it was noted that he had had no sleep during the night; he had passed five motions, all containing bile. The liver was enlarged and tender; the spleen was not palpable; the pulse was regular but weak, the temperature normal. He suffered from hiccough.

On June 1st the jaundice was deeper; the motions were loose, and contained bile; the urine showed traces of bile and albumin, but no casts or crystals of leucin or tyrosin. Emetine hydrochloride 1 grain was injected hypodermically on May 31st and June 1st, once on each day.

On June 3rd his condition was becoming worse. The temperature was 99° F., and the pulse 70 and feeble. Jaundice was the same, and the liver was still enlarged and tender. Blood examination showed nothing abnormal. On June 5th the condition of the liver, stools, and urine was the same, and jaundice was still present. The pulse was 74, and feeble; the heart sounds were weak, but there was no murmur; nothing abnormal was detected in the lungs. The rash had faded a little, but the ulcers in the mouth and on the lips were worse. He was kept on milk, bovril, and brandy, but his general condition became worse, and at 5 p.m. he collapsed and died. *Post-mortem* examination was not allowed.

Two consecutive doses of 0.5 gram salvarsan from the same stock were given by me to another sepoy at an interval of three weeks; he had diarrhoea, vomiting, and feeble pulse for two days after the first dose, but very slight reaction after the second dose.

The interest in the case here recorded lies in the long period between the administration of the salvarsan and the manifestation of toxaemia. The symptoms would suggest acute yellow atrophy or phosphorus poisoning, but both are negatived by the fact of there being enlargement of the liver throughout, and also as to the former by the absence of leucin and tyrosin in the urine.

There must have been a storage of arsenic in the liver, giving rise in all probability to acute fatty degenerative changes in the cells.

Captain Armstrong, I.M.S., who has kindly looked up the literature on the subject, says that three similar cases have been recorded, in one of which a necropsy was performed. This was a woman who was given three doses of salvarsan at an interval of nine days without any untoward symptoms. Three or four days after the last dose she developed toxic symptoms, diarrhoea and vomiting, jaundice, enlargement of liver, and severe abdominal pains, and died. *Post-mortem* examination showed diphtheroid necrotic ulcers in the intestines, perforation of the stomach, and acute fatty degeneration of the liver.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

"SURGICAL" EMPHYSEMA DURING PARTURITION.

I AM recording this case as I have not heard of a similar one, and do not find the possibility of this condition arising during labour mentioned in several books on midwifery I have consulted.

The patient, A. B., aged 24, primipara, was being attended by a midwife, and was in labour fourteen hours before I was sent for. On my arrival she presented a most alarming appearance; the face was scarlet and swollen to twice its normal size, so much so that both eyes were completely closed. The upper part of the chest wall and the neck were also much swollen, and the affected parts presented all the characteristics of subcutaneous emphysema—that is, they were soft to the touch and fine crepitations could be distinctly felt on slight pressure. The extension of the emphysema was interfering with respiration, and both the midwife and relatives thought she was dying. I concluded that the condition was due to the rupture of some subpleural pulmonary vesicles caused by the violent straining, and I immediately made preparations to deliver by forceps. The child was abnormally big, and a large caput succedaneum had formed. Twenty-four hours afterwards the emphysema had somewhat abated.

In this case the condition would probably not have arisen had the midwife taken less responsibility on herself and summoned medical assistance earlier. I have no doubt she will exercise more care in future after the fright she experienced.

Blackhill, co. Durham. JOHN MURRAY, M.B., B.Ch.

CONCURRENT INFECTIOUS DISEASES.

THE notes of Drs. Rice-Oxley and Lambert Benson in the BRITISH MEDICAL JOURNAL of November 25th and December 16th, 1916, describing concurrent attacks of measles and chicken-pox, remind me of several instances of concurrent infectious diseases which I have met with here during the last twenty-five years.

I have seen mumps concurrent with whooping-cough and also with measles. On several occasions I have seen measles and chicken-pox in the same patient, and in two or three children I have met with three diseases concurrent—namely, measles, chicken-pox, and whooping-cough. Once I saw a boy with a very pronounced German measles rash and three days later the eruption of measles. He had been exposed to the infection of both diseases, and I had not the least doubt of the concurrence of the two diseases.

The above remarks show that in my practice concurrence of infectious diseases has not been very rare.

Bedford. W. GIFFORD NASH.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

BRISTOL ROYAL INFIRMARY.

CASE OF GAS GANGRENE IN CIVIL PRACTICE.

(By F. K. HAYMAN, M.B., B.S.)

ON July 28th J. T., aged 17, a munition worker, was brought to the casualty department, having sustained a severe crush of the left hand by a machine used for stamping certain metal parts of shells.

The contents of the thenar and hypothenar eminence were extruded *en masse* through the skin, and there was a cut on the palmar surface of the middle finger, extending down to the bone, and severing the flexor tendons.

The hand was soaked in eusol for about twenty minutes, and then, under a general anaesthetic, the parts were cleaned up with eusol and replaced as far as possible. There was no dirt on the hand other than "machine débris"; no sign or history of faecal or other contamination. A wet eusol dressing was applied.

On July 29th at 3 p.m., when he attended again, the hand was slightly puffy in the palm, there was no pain, and he felt perfectly well; his temperature was 99°. At 8 p.m. he again attended (as a result of his father taking his temperature, and finding it 104°), the hand was distinctly swollen in the palm and dorsum, and the middle and fourth finger. No fluctuation was found. The temperature was 104.6°. He was admitted, and the hand was fomented. This was about thirty-six hours after the injury. There was a trace of albumin in the urine.

At 1 a.m. on July 30th the hand was enormously swollen and tense; there was fluctuation in the palm and dorsum, and crepitation was found over the wrist-joint and the third and fourth fingers, which were semi-anaesthetic. There was solid oedema up to within two inches of the elbow-joint, and the hand was beginning to assume a dusky purplish colour. There was no pain, and he looked and felt well. The temperature was 104°, the pulse 120; glands not enlarged. I made very free incisions all over the hand and forearm up to the elbow; there was no pus, but gas, having a slight odour not offensive, escaped from the cuts on the hand. The arm was dressed frequently with eusol and peroxide, and oxygen was percolated through the dressing under jaconet. I proved that it got right through by lighting a glowing match at the other end of the dressing with it.