

Radio-activity of certain waters, or their artificial radio-activation brought about by the addition of bromide of radium or by induction, does not modify this conclusion and does not represent in any way a factor of toxic or hurtful qualities, this being proved by the action of these waters on isolated contractile organs of the body, on the red corpuscles, or on the spermatozoa.

Deductions. Clinical Application of Mineral Water Injections into the Tissues.

The therapeutical employment of mineral water injections becomes then perfectly logical. In a general way they can be used both in cases where injections of normal saline solution or of isotonic sea-water are indicated, as well as in those in which we consider it of importance to apply a hydromineral cure, the maximum conditions of activity of which we wish to realise. Here I may recall the net results obtained in cases that I have already published of adenitis, tuberculosis, osteitis, pulmonary tuberculosis (certain forms), lymphatism, asthenia and anæmia, malaria, diabetes, chronic rheumatism, ulceration, eczema, psoriasis, severe syphilis with intolerance for mercury, glycosuria, and experimental tuberculosis.

In order to render a precise statement of the indications necessary for injections of mineral waters of different groups many clinical observations are requisite, but from the present time, by taking as a basis for our researches the investigations already carried out on injections of normal saline solution and on hydromineral treatment administered by the classical methods, we can foresee the series of cases in which the mineral waters would be indicated. Naturally it would be most interesting if we could choose the water which, from its chemical composition and from its various known properties, would seem best suited to the case under treatment; thus a kind of differentiation, becoming more and more distinct, would take place between the different groups of mineral waters (bicarbonated, sulphurous, &c.) to be employed as injections.

A most important study is grafted on to the last dicta: it is the comparison on the one hand between the effects produced by injections of mineral waters taken on the spot from the spring itself (in most cases without any modification), and on the other hand, the effects produced by injection of the same waters after a more or less prolonged interval since their exit from the spring. It would be of very great interest to be able to give precise data concerning in what proportion the results obtained with the "living" waters can be assimilated with those of the "old" or "dead" waters. In any case injection of mineral water into the tissues at the spring itself should be investigated on analogous lines to those employed in the experimental researches mentioned in this paper.

These advantages of injections of mineral waters into the tissues as a method of so-called cellular balneotherapy and of the application of the hydromineral cure in general are very numerous, as I have shown in detail, but the greatest discrimination is imperative in utilising these injections in certain cases, as they cannot in any way be looked upon as substitutes for the methods of administration habitually employed, although they are calculated to augment the activity of these last and to notably enlarge the field of application, already so extended, of hydromineral medication.

Finally, we must realise the first-rate benefits that hydrologic therapy will receive from physiological data, these last pointing to a line of investigations which at the present time are only at their dawn, the grand total of which, however, will probably form the basis of experimental hydrology.

LEWES VICTORIA HOSPITAL.—By the generosity of Mr. Augustus L. Christie a complete plant of the Roentgen rays has been installed at the Victoria Hospital on the Downs at Lewes. The new institution was opened on Feb. 2nd last by Princess Henry of Battenberg, and since that time the demands upon it have been exceedingly heavy, a fact accounted for by the up-to-date appliances. There has not, however, been a corresponding increase in the subscriptions, and at the annual meeting on Oct. 4th a strong appeal was made on behalf of the institution. It is to be hoped, too, that a little plain speaking by the mayor of the county town, in calling attention to a number of people who take no interest whatever in the hospital but are the first to appeal for letters for their domestics in times of need, will have the desired effect.

ULCERATING GRANULOMA OF THE PUDENDA A PROTOZOAL DISEASE.

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Preliminary Communication.

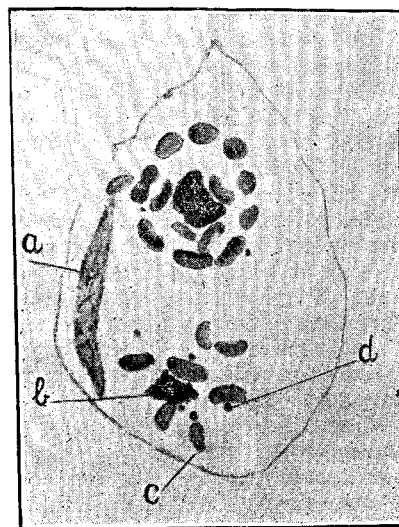
THIS interesting disease is one that is but rarely met with. It has taken some years to collect the material upon which the following observations have been made. Though the series of six cases is but a small one, it would seem sufficient to show that many of the views held by most observers regarding the etiology of the disease are entirely wrong.

Ulcerating granuloma of the pudenda is not a venereal disease, though, as a rule, the genitals and contiguous parts are the seat of infection. It is contagious and is auto-inoculated by the host on other parts of the body. The disease has been seen on the surface of the cheek, the buttock, &c. Maitland has described the disease as occurring within the buccal cavity, on the inner surface of the lips, gums, and inside of the cheek, but further confirmation of this distribution is necessary. The disease is usually seen in adults, and race plays no essential part in its etiology.

The distribution of the disease is extensive. It was first described by Conyers in 1896 in British Guiana, and later by Daniels in the South Pacific Islands. Northern Australia and New Guinea have given typical examples of the disease. It occurs in India perhaps more frequently than in other countries, and Maitland, Macleod, Powell Williams, and others have given us much literature on the subject.

According to former histological researches this disease has up to date always been classified amongst the infectious granulomatous tumours. However, if sections are stained as described below it will be found that the disease is due

FIG. 1.

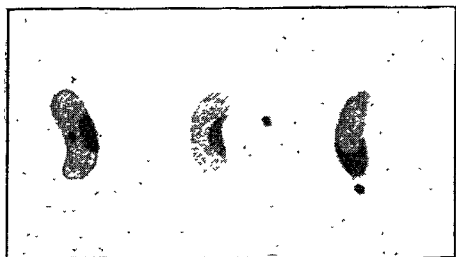


An infected cell. *a*, Laterally placed nucleus of infected cell. *b*, Deep-staining irregular central mass. *c*, Limit of clear area. *d*, Deep-staining dot. Drawn with 1/12 apochromatic and 8 compensating ocular Zeiss.

to a protozoal infection. Thin sections fixed to a slide are stained in a solution of Giemsa diluted 12 drops to 10 c.c. of distilled water. After this stain has acted for 20 minutes each section is washed in tap water for about 30 seconds, then dipped in eosin solution, 1 in 50,000, for 45 seconds, dehydrated, and brought up through xylol into Canada balsam. The second method is to stain a fixed section with a saturated solution of eosin in alcohol (95 per cent.) for five minutes; the solution must be three months old. The stained section is then washed in distilled water, and counter-stained with watery methylene blue, 1 in 1000, until the nuclei are stained deep blue. The slide is then washed in absolute alcohol for a few seconds and taken up through xylol into Canada balsam.

The first thing that strikes the eye will be that in certain areas lie masses of very large mononuclear cells, their cytoplasm distended with from 15 to 50 bean-shaped bodies resembling the gregariniform stage of a herpetomonas or crithidium. On using the higher powers of the microscope these bean-shaped parasites are seen to contain the usual cytological elements. The parasite, though slightly smaller than that seen in sections of Oriental sore, is very similar; and in the light of the recent work on Oriental sore, showing

FIG. 2.



Bean-shaped parasites on large scale. Drawn with 1/12 apochromatic and 12 compensating ocular Zeiss.

the crithidial monadine forms, &c., assumed by this protozoon, I consider that the parasite of ulcerating granuloma is of the same class, and will be found similarly to develop monadine and gregariniform phases in suitable culture media. For the present I propose, therefore, to consider ulcerating granuloma of the pudenda as due to a localised protozoal infection of man with either a herpetomonas or crithidium.

The parasites are found in large swollen cells, in which the nucleus is pushed to one side of the cell. The cytoplasm of the infected cells contains from 15 to 50 protozoal parasites arranged roughly in groups of 15 to 20, round a central homogeneous mass simulating the zooglia mass of *Leishmania* in cultivation. No flagella have been noted, but the fact that a deep staining dot lies external to and in close relationship with what seems to be the more mature form of the parasite is highly suggestive. The nuclei of the parasites stain a deep reddish violet, the dot almost black violet, and the cytoplasm of the parasite pale blue. The rest of the tissues in the neighbourhood of the infected area stain light blue. Lastly, it is interesting to note that each parasite seems surrounded by a faint unstained area suggestive of the similar appearance seen in staining for Negri bodies.

A CASE OF TUMOUR OF THE PITUITARY BODY.

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THE subject of tumours of the pituitary body has attracted a good deal of attention of late, and as the etiology and morbid anatomy of such tumours are still a matter of some obscurity, any case which serves to throw further light on the subject is deserving of attention. The condition of the cerebro-spinal fluid in such cases does not so far appear to have been noted, and this is one of several points of interest in the following case, for permission to publish the notes of which I am indebted to Dr. S. R. Macphail.

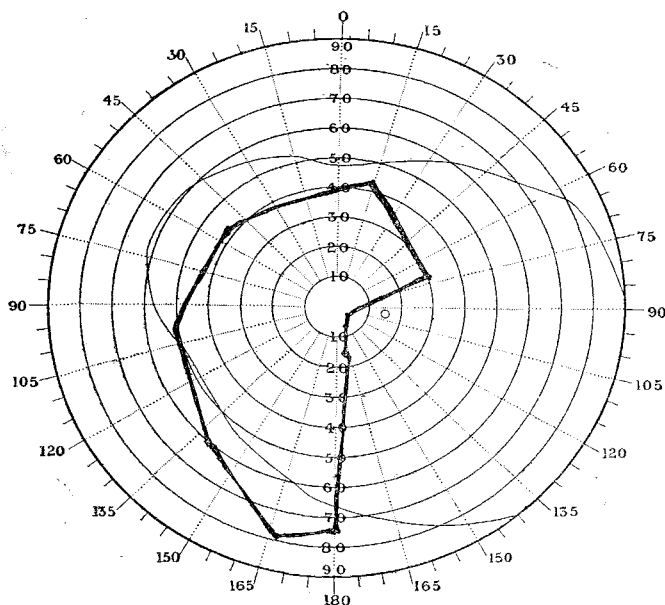
The patient, a man aged 36 years, married, was admitted to the Derby Borough Asylum on Dec. 22nd, 1909.

History.—Eight years ago the patient began to suffer from severe neuralgic pains, first in the left temple, and later in the right. Eighteen months later the sight in the left eye began to fail, and six months afterwards the right eye followed suit. The eye condition was treated in several hospitals, including St. Bartholomew's, at each of which large doses of iodide of potash were given, but both the sight and the headaches steadily became worse. In June, 1905, he began to have epileptic fits. There was no aura or local commencement; during the fit he bit his tongue and passed urine, and after the fit he fell into a deep sleep. Sometimes a succession of fits would occur, and he would pass into a condition of status epilepticus. In the course of the same

year he had several mucous polypi removed from both nostrils. In 1906 he lost all sight in the left eye. In 1907 he became somewhat ataxic, and in the same year had an attack of acute mania, which has been followed by several attacks of excitement. During the last two years he has been gradually becoming more dull, stupid, and lethargic. In January, 1909, he lost all sight in the right eye. He has been getting very deaf, but for years has had a discharge from the right ear. In July, 1908, the middle ear was cleared out, but without benefit. He has always been a stout man, and has gained rather than lost weight during the present illness. His eyes are a good deal more prominent than they were a few years ago.

Condition on admission.—The patient was a strong, well-made man, with abundance of adipose tissue. The eyes were very prominent and staring. He was in a dazed and confused condition, unable to answer questions put to him, and requiring artificial feeding. He had no control of his vesical and rectal sphincters. Nothing abnormal was found in his circulatory, respiratory, and digestive systems. There was no polyuria, and his urine contained neither albumin nor sugar. From his left nostril there was a discharge of clear serous fluid, which appeared when he sat up in bed, and which fell drop by drop. It was highly albuminous, and on centrifuging was found to contain numerous leucocytes. As regards his nervous system, no paralysis of the arms or legs could be detected, nor any definite disturbance of sensation. He was very ataxic, even when sitting up in bed, but did not sway more to one side than to the other. The superficial reflexes were normal, but the deep reflexes were considerably exaggerated, those in the left leg being the most active. There was slight ankle clonus on the left side. The plantar reflex was flexion. Owing to his mental dulness it was not possible to test his cranial nerves with accuracy. There was weakness of all the extrinsic muscles of the left eye, the weakness being most marked in the superior rectus, internal rectus, and inferior oblique. The pupils were medium in size, equal, regular, and reacted well to accommodation; the reaction to light was very sluggish in the right eye and completely lost in the left. There was complete amblyopia, and double primary optic atrophy, this primary atrophy having been also observed in 1905 by Mr. Holmes Spicer at St. Bartholomew's Hospital. The blindness being complete, no observations could be made on his fields of vision, but fortunately some observations made in 1903 were available. These show that at that time the left eye was only capable of perceiving hand movements, while the right field of vision presented a beautiful example of hemianopia, the temporal half of the field being quite blind. (Fig. 1.) At that time he

FIG. 1.



Field of vision of the right eye, showing the temporal hemianopia.

is reported to have had choroiditis in both eyes. The earliest note of his ocular condition was in May, 1902, when his vision was normal and his fundi presented no unusual appearances. There was very marked deafness on both sides, but