

if it were already moveable, but I do not think that a normal kidney would be loosened by this form of exercise.

When we come to consider the treatment of moveable kidney we are met with the fact that many patients who are the subjects of this condition get through life with very little inconvenience at all. The displaced kidney seems very often to produce no symptoms as long as it remains quiet in one place. Thus in Case 8 which is that of a single woman, aged 40 years, who has been under my observation at frequent intervals for the past seven years, there are, as a rule, few, if any, symptoms so long as she leads a quiet life and keeps her bowels open. At intervals she has to nurse and to lift an old mother, and this nursing is always attended by severe attacks of pain in the abdomen, and on several occasions after such nursing I have found on examination the position of the kidney to be shifted. If, however, the kidney remains in one position the system seems to become accommodated to the displacement and few symptoms result. I could quote several cases in which a moveable kidney has been under observation for years, causing very few symptoms but occasional indigestion, and requiring neither support nor treatment. One of the first cases (Case 9) of consultation which I had in Exeter 20 years ago was with Mr. A. C. Roper on a case of "floating kidney." The patient was never, and has never been, in robust health, and has always had indigestion, but she has gone through life as well as numerous other weakly women who have their kidneys normally placed.

I think that all cases of moveable kidney suffer more or less at times from indigestion. There seems to be a connexion between certain conditions of the kidney and stomacic disturbance.

I have seen two cases which proved to be those of calculus in the kidney in which the patients had for a long time previously to the passage of the calculus only been thought to suffer from severe and intractable dyspepsia and from this condition only, and I see that Dr. Clifford Allbutt, when enumerating the symptoms of calculus of the kidney, says: "Another symptom which results from transference of nerve influence has reference to the stomach; nausea, vomiting, and dyspepsia are very common not only at the times of actual colic but also during the periods of less acute suffering. These symptoms are explained through the connexion of the pneumogastric with the renal plexus." It seems to be reasonable to suppose that the traction and twisting which a displaced kidney must make on the nerves of the renal plexus would produce indigestion in the same way as does the calculus in the kidney through the connexion of the pneumogastric with the renal plexus. It will, I think, be found that the indigestion associated with moveable kidney is more benefited by aperients and by regulating the bowels than by any other treatment.

In some cases moveable kidney seems to disappear without treatment, the kidney resuming its usual position. This occurred in Case 10.

CASE 10.—The patient, a married woman, aged 45 years, had had five children. In 1889 twins were prematurely born and there were subinvolution and cervicitis of the uterus. She was treated by Dr. L. Atthill in Dublin with much benefit. At this time there was no suspicion of a "loose kidney." Some time in 1892 her husband (a medical friend of mine) was examining her abdomen to discover the cause of sudden attacks of faintness with sickly pain and vomiting from which she was suffering and he discovered an abdominal tumour. The shape and smooth feeling of the kidney were very perceptible and its absence from the left loin was very noticeable, it being, as is unusual, the left kidney which was displaced. The patient was seen by a surgeon who entirely confirmed the diagnosis. A pad with a belt was devised, but the patient could not, or did not, wear it very long. The symptoms gradually subsided and now nothing can be found in the abdomen.

These, then, are the most favourable cases of moveable kidney. In other cases, as I have mentioned in some of those which I have described, the symptoms seem to subside when the patient wears an abdominal belt with an inflatable pad over the region of the kidney in front which keeps the kidney from constantly shifting its position; but in some cases, as in Case 2, this belt is of no avail—the symptoms continue and the patient's life is rendered very miserable, especially when, as in this case, a young person is cut off from dancing, tennis, and all the pleasures which are most enjoyable at her age. In such cases the operation for fixing the kidney should be recommended. I am told by

surgeons that it is a very easy and very satisfactory operation and my own very slight experience of it would entirely confirm this view.

Exeter.

THE OPEN-AIR TREATMENT OF PHTHISIS: AN INTERESTING CASE.

BY J. FLETCHER LITTLE, M.B. CANTAB.,
M.R.C.P. LOND.,

PHYSICIAN TO OUT-PATIENTS AT THE NORTH LONDON HOSPITAL FOR CONSUMPTION;

AND

F. W. FORBES ROSS, M.D. EDIN., D.P.H.,

CLINICAL ASSISTANT AT THE NORTH LONDON HOSPITAL FOR CONSUMPTION.

THE following case of pulmonary tuberculosis is published as an interesting example of the benefits to be derived from the open-air method of treatment, accompanied by special feeding, in this country; as a contrast to one of residence in a warm climate unaccompanied by any special line of treatment; and also as an object-lesson in the success that may be attained by appropriate treatment in the climate of this country even when, as in this case, during residence abroad, the disease had progressed and was rapidly nearing a fatal termination.

A young man, aged 24 years, who was the subject of pulmonary tuberculosis, on medical advice went to South Africa in November, 1897. At that time he was stated to be suffering from tuberculous infiltration of the apex of the left lung. He resided for two years at Reddersberg in the Orange Free State, where the climate is described as being fairly equable, and the place as hilly, sheltered, dry, and free from dust. Reddersberg is on the main line to Bloemfontein and is consequently fairly well supplied with the necessaries of life. During the patient's residence at that place he followed the light employment of a bookkeeper, spent a great deal of his time in the open air, and continued to carry out the lines of treatment which had been laid down for him by competent medical advisers at home and abroad. His complaint at first tended to improve but he began gradually to lose ground till in April, 1900, he appeared to be so obviously going down hill that it was decided that he should return to this country and seek for further aid and, if it was possible, amelioration. He accordingly presented himself in May at the out-patient clinique of the North London Hospital for Consumption. On examination the case presented the following noticeable points. The patient's general appearance was that of a person suffering from a rapidly advancing wasting disease. He was thin, pale, and emaciated. His voice was husky and hoarse and only equal to a whisper. He had an incessant cough with copious purulent sputum which on bacteriological examination showed crowds of tubercle bacilli by Gram's, Ziel-Nielsen's, and Honsell's stains. His skin was dry, rough, harsh, and inelastic. There were loss of appetite, pain after food, and frequent vomiting due to cough. His height was 5 ft. 9½ in. and his weight was 8 st. 9 lb. His case was one of mixed infection. On closer examination both lungs were found to be throughout in a condition of actively secreting bronchorrhoea; the apices of both lungs were dull and the left apex was the seat of a vomica below the sternal end of the clavicle. Laryngeal examination showed pyriform swellings and slight ulceration with congestion of the whole larynx, all undoubtedly tuberculous. His temperature ranged from 101° to 102·8° F. daily. His heart sounds were normal, though weak. The pulse was frequent; there were copious night-sweats and clubbing of the fingers, also slight anasarca of the feet. His urine was free from albumin or sugar, but it was loaded with phosphates.

His appearance being so obviously serious and as he needed immediate care and nursing, it was deemed advisable that whilst waiting for a vacant bed he should be sent into a general hospital as an in-patient. After residence in such an institution for a fortnight, during which time he made no favourable progress, he was removed to his home by his friends; here he continued to reside during the space of five weeks, during which time he carried out as best he could

the instructions which had been given to him for the application of the open-air methods. At the end of this period he had so far improved and was so much better, having gained five pounds in weight, that he appeared to be a more suitable case for treatment at Mount Vernon, Hampstead. He was therefore admitted into that institution on July 25th, 1900, when he weighed 9 st., and here he continued to reside and to enjoy the open-air treatment with appropriate remedies and diet under the care of Dr. B. O'Connor until Sept. 27th, when he left weighing 9 st. 12 lb.

The patient was now so much improved in health that when he presented himself for examination at the out-patient clinique in Fitzroy-square in October he was unrecognisable as the same patient. His appearance was that of a fairly nourished young adult. His voice was strong with the merest suspicion of huskiness, the laryngeal affection having markedly subsided under the care of Mr. R. Lake. His cough and night-sweats had disappeared and the bronchorrhœa had dried up, the only remaining signs being in the apices. The right apex had markedly cleared up, though the breath sounds were still harsh and the left apex showed fibroid thickening with the original vomica. There were very few bacilli in the sputum. His skin was now moist, oily, supple, and elastic, with some subcutaneous fat and a decided pinkness of hue. He expressed himself as never having felt better in his life, and his spirits and bearing conveyed that impression. At the present date he continues to attend the out-patient clinique and he carries out the principles of the open-air treatment at home in the country near London. His weight is now 10 st. and he continues to improve in every particular.

This case is a good example of the prompt abatement and arrest of symptoms tending at one time to indicate a rapid progress towards a fatal termination. Although it is yet somewhat early to speak of "cure," yet from the progress of the case and its present condition there seem to be substantial grounds for much hope, as the patient appears to have now an excellent chance of recovery, which he certainly had not before the open-air treatment was adopted. The case is put on record as a sufficiently striking example, among many others, of the benefits of the open-air treatment of tuberculosis. At this time information as to the results of this method may be valuable and helpful to others who may desire assistance in deciding upon a line of procedure in suitable cases.

SOUTH AFRICAN HORSE-SICKNESS: ITS PATHOLOGY AND METHODS OF PROTECTIVE INOCULATION.¹

By ALEXANDER EDINGTON, M.B., C.M., F.R.S. EDIN.,
DIRECTOR OF THE COLONIAL BACTERIOLOGICAL INSTITUTE,
CAPE COLONY.

THIS disease, so far as is known, is peculiar to South Africa. While affecting the Transvaal and Rhodesia every year—beginning about the end of October and continuing until the following May or even later—it only affects the Cape Colony and Natal in an epizootic form in certain years, although sporadic cases occur annually in certain localities. It affects horses, asses, mules, and it has been asserted—although I have never seen such cases—that quaggas have also been killed by it. A disease which occurs to a limited extent among cattle, called by the natives "imapunga," and one which exists as a widespread plague among high-bred sheep and goats in the eastern province of Cape Colony, are each closely related in their pathology with this malady. The most dangerous areas infected by the disease are those which are relatively low-lying—independently of the absolute altitude of the district.

Period of infection.—It has been commonly observed that where animals during a season of sickness are not permitted to graze after sunset and before the sun has dried up the dew from the herbage they do not so commonly become affected as where such a routine is not carried out. Horses which are stabled during the night are, as a rule, safe, but during last year 60 per cent. of the stabled horses in Eshowe, Zululand, died from this sickness. Veterinary-Lieutenant Coley, A.V.D.,

who kindly made the observations for me, stated that these horses were mainly fed on Guinea or Ubaaba grass mixed with forage or Indian corn. This grass was usually cut in the evenings and made into bundles till next day. Those who took particular care to have the grass thoroughly dried in the sun before using it did not lose their horses, while those who neglected this precaution lost heavily. The disease is only directly contagious; for while inoculated horses have died in my stables among clean animals I have never found, during observations extending over seven years, a single case of infection from such a source. The annual mortality in Rhodesia and the low-lying parts of the Transvaal amounts to over 90 per cent. Animals which have recovered from the sickness are termed "salted," and are increased from six to ten times in market value. Animals which are "salted" are liable to subsequent attacks of fever which have no necessary relation to fresh infection. I have observed numerous cases of this description among the "salted" animals under my observation and during periods when the sickness was unknown.

Symptoms of the disease.—The disease occurs under two forms—the "dikkopziekte"² and the "dunpaardeziekte."³ In the former the head and neck swell up enormously, thus affording trustworthy indications of illness during life. In the latter form, as a rule, no symptoms appear until close to the period of death, when the animal becomes subject to very rapid breathing with heaving at the flanks. At the moment of death, in both forms, it is common to find a huge cloud of white foam ejected from the mouth and nose. This foam is produced from a free exudation of blood plasma into the air-passages. Owing to the fact that the animals suffering from the "dunpaardeziekte" show no symptoms until toward the end of the period of illness, it had come to be believed that the whole period of the disease was limited to a few hours' duration.

Post-mortem phenomena.—The pericardium is almost invariably filled with a yellow fluid which, while usually clear, is sometimes blood-stained. Solidified gelatinous exudate is frequently found in relation to the beginning of the aorta. The pleural cavity is frequently occupied by yellow fluid and the interlobular and sub-pleural tissues are also frequently distended by this material. The interlobular tissue is frequently so distended by exudation that the lung tissue proper is dissected up in all directions. The subcutaneous tissue, especially about the great vessels in the neck, is commonly found to be invaded by this exudation, while in the "dikkopziekte" the swelling of the head and neck is due to this effusion. The yellow fluid of the pericardium and the pleuræ is spontaneously coagulable in the presence of minute traces of blood. These represent the more characteristic pathological conditions obtaining in this disease, among which one characteristic is most noticeable by its absence—e.g., inflammatory phenomena. Pathological phenomena are, therefore, for the most part to be ascribed to the marvellous exudation of blood plasma which, while seen more or less throughout the serous and subcutaneous tissues, is best marked within the thoracic cavity. In my annual reports as Director of the Colonial Bacteriological Institute I have referred to the morbid anatomy in greater detail.

INOCULATION EXPERIMENTS.

For the purpose of conveying to healthy animals the infection from those already sick three materials have been made use of—viz., (1) the yellow fluid from the trachea of infected animals; (2) the yellow fluid from the pericardium of infected animals; and (3) the blood of infected animals. The use of the first two fluids has not always been successful in setting up the disease, but fresh virulent blood has invariably proved successful. The methods of use of the materials mentioned are: by subcutaneous injection; by the insertion of a seton, impregnated with the fluid, under the skin; and by drenching—e.g., giving a dose by the mouth. The sites selected are: directly into the lung tissue by hypodermic needle operating through the skin over an intercostal space; into the subcutaneous tissue of the neck; into the subcutaneous tissue of the flank; and intravenously. Any one of the channels selected is equally suitable, but the incubation period is somewhat shorter when the intravenous method is used. When the malady is induced by the inoculation of two or three cubic centimetres of the blood of an

² Dikkopziekte, a Dutch word signifying "thick-head sickness," is applied to the form in which the swollen head is the most obvious symptom.

³ Dunpaardeziekte, "thin horse-sickness," applied to the form in which the head is little or not at all swollen.

¹ A paper communicated to the Royal Society for the author by Sir David Gill, F.R.S., on August 20th, 1900.