as well as in the warmest climate. It is well known that the malaria parasite having obtained an entrance into the system of an individual in tropical Africa may persist for years after the patient has been living in England. The greater part of Dr. Manson's address was occupied with a discussion relative to the nature of the infection of plague and the manner in which the present epidemic of it has spread so extensively. Rats contract plague more readily than human beings do and they are thus a means of spreading epidemics. Plague is not a very infectious disease, certainly not so much so as small-pox, scarlet fever, or typhus fever, and if the rats in a town were exterminated before the arrival of the disease there would be little chance of its gaining a hold on the place. The preventive measures applicable to cholera are not applicable to plague because cholera is conveyed by water and plague by rats.

A CASE OF PERSISTENT WARTY GROWTH OF THE VULVA (EPITHELIOMA?) ASSOCIATED WITH PRURITUS VULVÆ.

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FOR several reasons the following case is, I think, worthy of record. First of all it is apparently an example of pruritus occurring purely as a reflex manifestation of uterine disturbance; secondly, the warty condylomata appear to have owed their origin and persistence to the constant local irritation produced by the pruritus; and lastly, after acquiring a distinctly epitheliomatous type the growth was successfully removed and shows no tendency to recur after a period of upwards of two years. The case is as follows.

The patient was a single woman, aged 37 years. She consulted me in May, 1897, for a growth of the vulva and gave me the following history. Menstruation commenced in her twentieth year and had always been irregular, scanty, and painful. Moreover, at the onset of each menstrual period she experienced a great deal of distressing pruritus of the vulva. This irritation appeared the day before the flow and lasted one or two days after the latter had ceased. During the last ten years it had steadily increased until it became intolerable. During the periods it was impossible for her to abstain from seeking relief by scratching. She lived in perpetual misery, looking forward with dread to the next menstrual period. Five years after this pruritus began to be troublesome she noticed a small warty growth in the genital cleft immediately above the clitoris. She had never had any vaginal discharge of any kind, neither was there any glycosuria. As the growth increased in size it was removed by a surgeon in January, 1895. After the removal the pruritus continued as before. Six months later the growth reappeared and was removed a second time. In November, 1895, it began to recur and a third removal became necessary. In August, 1896, it was growing again and was operated upon for a fourth time. I was informed by her medical man that the growth at this date consisted of a warty mass situated above the clitoris, with several scattered centres surrounding it. The whole mucous membrane involved was freely excised and the parts were allowed to heal by granulation after cauterisation. Pathological examination showed it to be a simple warty condyloma. The growth had evidently no causal relation to the pruritus as the latter was unaffected by these removals. In October, 1896, the growth reappeared. For ten months every conceivable topical remedy was tried without any result beyond producing some ulceration and irritation and her condition was a truly miserable one. In July, 1897, I examined the patient with a view to operation. I found an extensive diffuse papillomatous growth covering the whole mucous surface of the genital cleft, enveloping the clitoris in the centre and extending down on each side of the meatus urinarius and the vaginal orifice. There was no evidence of malignancy to the eye or touch. The parts were freely moveable but slightly tender owing to the various caustic remedies that had been used. The inguinal glands were slightly enlarged from the same cause. The labia majora were dotted along their margins

with small warty growths. There was a well-marked hymen and no trace of discharge of any kind. Anti-syphilitic remedies had been very fully tried without effect. All things considered it seemed certain that the pruritus was in no way the result of irritation from the growth. Not only had it existed several years before the latter appeared but also it had remained unaltered after each of the four operations. In the entire absence of any vaginal discharge or any other source of local irritation I could only regard it as a reflex manifestation of the disturbed uterine functions. I determined, therefore, to act upon a suggestion of my old friend and teacher Mr. Pridgin Teale who had seen the case and attempt to rectify any pathological condition of the uterus prior to removing the growth. Under ether, therefore, I first examined bimanually and found the uterus

FIG. 1.

U, Urethra. V, Vagina. A, Anus. The upper portion of the genital cleft is occupied by a warty growth. A thin line indicates the incision.

of almost infantile dimensions with a small conical os. With a little difficulty I very fully dilated the latter with Hegar's dilators. The growth was then excised in the following manner. The knife was entered over the symphysis and an incision was carried down each of the labia majora a good quarter of an inch from their margins. The incisions went down to the periosteum as far as the bone extended and reached a good inch below the level of the meatus urinarius. The lower extremities of

FIG. 2.

U, Urethra. V, Vagina. A, Anus. The appearance presented after the operation.

these incisions were then joined by an angular incision carried across the genital cleft and rising in the mid-line above the meatus. The whole area of mucous membrane and soft tissues included within these incisions was then dissected off the pubes beneath. The clitoris was of necessity removed, being enveloped in growth and already

partly destroyed by the previous operations. The cut edges of the labia majora were then brought together in the middle line above the meatus and stitched to the cut edge of the mucous membrane below along the sides of the meatus and vaginal orifice. The whole genital cleft was thus obliterated except for the vaginal orifice and the meatus urinarius above it. The accompanying illustrations show better than any description in words the condition of the parts before and after the operation. The wound healed by first intention and the stitches were removed on the ninth day. The catheter was never used. Menstruation commenced on the eleventh day and was painless. There was an entire absence of pruritus for the first time for 15 years. I have seen the patient occasionally during the past two years. She remains quite well, there being no return of her distressing symptoms or of the growth. She has lost her nervous depression and melancholia and is now leading an active life.

Pathological report on the tumour.—A portion examined by the Clinical Research Association was pronounced to be epithelioma. Dr. Eurich, pathologist to the Bradford Royal Infirmary, has also kindly examined specimens for me and reports as follows: "The sections you sent me are those of an epithelial papilloma. Although there is an absence of true cell-nests there are two characteristics in the specimens suggesting malignancy: (1) the great depth to which the proliferated epithelium has grown, and (2) the badly differentiated Malpighian layer. The epithelium is largely infiltrated with small round cells, but that is probably due partly to the previous treatment of the growth and partly to the irritation to which its situation has exposed it. The growth, therefore, may be regarded as a transition stage between simple papilloma and epithelioma."

On reviewing the history of the case I think one may reasonably draw the following conclusions. 1. There existed an imperfect development of the genital organs with congenital stenosis of the cervical canal, causing defective and painful menstruation. 2. The pruritus vulvæ was a symptom or reflex manifestation dependent upon the disturbed uterine functions. The entire absence of any other cause and the immediate and permanent relief following free dilatation of the os after all other treatment had failed hardly admits of any other explanation. 3. The persistently recurring growth, ultimately assuming a malignant character, seems to have owed its existence to the constant irritation and congested condition of the cutaneous and mucous surfaces affected by the pruritus.

It is an interesting fact that simple condylomata of the external genitals not infrequently appear during pregnancy and show a special tendency to grow and spread rapidly during the period of gestation. I have quite recently seen a woman in the sixth month of pregnancy in whom a crop of these growths had appeared three months previously. These had spread and multiplied so much that the advisability of removal was considered, as they seemed likely to give rise to trouble during parturition. I removed a number situated about the vaginal orifice under local anæsthesia, leaving several that were so placed as not to be likely to cause trouble during and after labour. These have almost all disappeared without treatment since parturition took place. In cases occurring in pregnancy, therefore, there is distinct evidence of a causal relation of the uterine condition to the development of such growths.

Dilatation of the os being usually only a temporary cure of dysmenorrhœa I naturally expected a recurrence of that symptom. In this case, however, the relief promises to be permanent, for after a period of two years and three months menstruation remains practically painless. Dilatation was very fully carried out and at the present time the os is still somewhat patulous. Whether this will always be so time alone can decide. As the patient is now in her fortieth year the possibility of a renewal of the symptoms is becoming a remote one and it may be said with some degree of confidence that the cure is permanent.

Bradford.

MIDDLESEX HOSPITAL.—The entrance scholarships at the Middlesex Hospital Medical School have been awarded as follows:—Freer Lucas scholarship (135 guineas), Leonard Herbert Henry Bays, Epsom College; first entrance scholarship (£100), F. Wood; second entrance scholarship (£60), W. Kingsbury; entrance exhibition (£25), Raoul Félix, Mauritius; University scholarship (£60), A. E. Taylor, Downing College, Cambridge.

BROMIDE OF STRONTIUM IN THE TREATMENT OF EPILEPSY.

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L.F.P.S. GLASC.

DURING the past few years several cases of epilepsy have come under my observation. The name "epilepsy" may be regarded as a term indicative of several symptoms due to various causes. Of the latter some are profound or organic, due to structural changes in the brain substance or the result of direct pressure. With cases of this class I shall not attempt to deal as they are not directly amenable to medicinal treatment. On the other hand, we meet with cases in which the attacks appear to be functional in character and to depend on various causes, such as those due to a constitutional weakness as the result of heredity, alcoholism, and syphilis in the parents, the offspring being weak in body and mind, with little will power and easily thrown off their mental balance. We also meet with cases resulting from fright, cases occurring at the appearance of the catamenia, and cases due to reflex agents. If the source of irritation in seizures due to the latter causes can be determined and removed there is reasonable hope of a satisfactory result; and the sooner the better, for the greater the number of attacks the greater is the difficulty in checking recurrence, as a sort of habit is established.

What I consider to be of the highest importance in the treatment of this, as of all other affections, is the general management of the patient in regard to diet, exercise, and attention to the different functions of the body. In the first place, as to diet, the lightest and most assimilable forms should be ordered in quantities sufficient to sustain nature while not unduly taxing any organ of the body. The food should be administered regularly in moderate quantities and alcoholic drinks should be altogether prohibited. The latter are particularly injurious, a fresh attack of epilepsy being generally the result of each such indulgence. Meat should not be allowed more than once daily, and then at midday, and the patient should not retire to rest until gastric digestion is complete. Plenty of exercise, but not sufficient to produce exhaustion, is to be commended in order that healthy tissue changes may take place. If from any cause the patient cannot take exercise it may be supplemented by massage. The different secretions and excretions of the body should be carefully looked after and attended to in order that no toxic effects shall be produced by the retention of poisons in the system, and the mind of the patient must be kept pleasantly occupied and any condition or cause tending to produce depression or mental worry should be especially avoided. A cold bath or tepid sponging of the body under supervision acts as a good tonic to the entire system.

Various drugs are employed in the treatment of this disease and of them the most commonly used are the bromides in some form or other, each practitioner having his own particular formula. The one I find to act most surely and effectually is the bromide of strontium given in variable doses to suit the age and condition of the patient in combination with syrup of orange-peel and infusion of calumba, and if no irritability of the stomach exists I add 10 grains of borax to each dose. A good result is generally found to ensue in a short time. An aperient—a blue pill followed by a Seidlitz powder—acts beneficially. The bromide in this form is well borne by the stomach and may be continued for an indefinite period without affecting the mental condition or producing that intense depression so often caused by the potassium salt. The dose I usually give is one drachm for an adult four times a day after a light meal and proportionate doses for children according to their age.

I give two cases illustrative of the action of the drug in this disease.

CASE 1.—A man, aged 30 years, had been suffering from epilepsy for 15 years, during which time the attacks were at the rate of six to eight each week. He had been the round of the various hospitals, &c., in the neighbourhood, and according to his own statement had always been given the "salty" medicine—meaning, I expect, the potassium salt. A prescription in his possession, which he had been having regularly dispensed, showed 40 grains of bromide of potassium to each dose to be taken three times a day.