CLINICAL REMARKS

ON THE

DIAGNOSIS AND TREATMENT OF PRURITUS VULVÆ.

*Delivered at St. Mary's Hospital.*By ALFRED WILTSHIRE, M.D., F.R.C.P.,
Joint-Lecturer on Obstetric Medicine at the Hospital.

GENTLEMEN,—The patient, an elderly woman, who is now before you, has brought this specimen of her urine at my request; our object in procuring it being the demonstration to you that it contains sugar. Its specific gravity is high—1040; and, on applying Fehling's test, with heat, you may observe that a copious precipitate of suboxide of copper is thrown down. We conclude, therefore, that it contains sugar—the influence of any other reducing agent, *e.g.*, uric acid, being excluded.

Looking at the patient, probably few of you would suspect that she is diabetic: she is neither notably thin, nor has she had, until recently, either thirst or a large appetite; moreover, the amount of urine voided when she first attended was not remarkable; now it averages seven or eight pints in the twenty-four hours. We were led to suspect the presence of sugar in the urine from her complaint of itching of the private parts, the symptom for which she sought relief; and at each visit we have found it to be loaded with sugar. The vulvar itching was at once greatly relieved by a borax lotion; and, although there is no abatement of the glycosuria, yet the itching has scarcely troubled her again; in fact, she now makes no complaint of it.

I have availed myself of this case as illustrating an important form of pruritus vulvæ due to a general disease of great gravity, the first clue to which is sometimes obtainable through the symptom of vulvar itching long before the manifestations of diabetes commonly regarded as classical—*e.g.*, wasting, thirst, voracious appetite, polyuria, etc.—have declared themselves. This symptom of pudendal itching—for males, though in a less degree, are subject to it—has repeatedly led me to the discovery of glycosuria. Observe that I use the word glycosuria rather than diabetes; for not all the patients whose urine contains sugar are diabetics, that is, they do not all have an excessive flow of urine, polyuria being manifested later, if at all. Clinically, it is important to recognise that glycosuria occurs in stout as well as in thin folk; otherwise, the malady may be long overlooked. The symptom of pudendal itching will direct your attention to the state of the urine, and may thus lead to the early detection of sugar. Before dismissing the patient, I will ask you to observe her teeth, and note the injection of the capillaries of her cheeks. Her teeth are being shed without decay, as the teeth of elderly diabetics sometimes are, apparently from shrinking of the sockets, the alveolar processes wasting. In some cases, the teeth become brittle and crumbly. The tendency to injection of the facial vessels seems to be part of a general proclivity to capillary erythema, for flushing of other regions of her skin is easily excited. Here is a photograph of another patient who was tormented with vulvar pruritus, a stout gouty diabetic; and, as the local condition in her case was typical, I will describe it.

The separated vulva looked pale, rough, granular, thickened, and sodden—in texture like the rind of a Seville orange, only dead white. Mark the absence of pigment: it is diminished or absent in many cases, just as in pruritus ani. This change I regard as neural. Very rarely there is increased pigmentation, a slaty hue overspreading the parts; or there may be suffused dusky redness, or a glazy redness, especially in the aged, mostly arising from acrid uterine discharges.

But the glycosuric or diabetic is only one of many forms of pruritus vulvæ; and, as the symptom may arise from a variety of causes, we must review these together, in order that you may acquire a comprehensive knowledge of them. Broadly, they may be divided into two chief classes: the *local* and the *general*; but in some instances these overlap.

Local Causes.—These are as follows.

a. Animal and vegetable parasites may infest the vulva, and excite itching. Among the former are pediculi, acari, and ascarides. Pediculi and ascarides are easily recognised, but the itch-insect may be overlooked. Ascarides are more common in girls than in women, but are by no means unfrequent in the latter. They crawl from the anus over the vulva, and thus annoy; sometimes provoking leucorrhœa also.

(The same may be said of tenia, joints of tapeworm escaping *per anum* and exciting irritation in the adjacent parts; but this very rarely happens.) The vegetable parasites are of interest; for the itching appears in many cases immediately to depend upon the presence of certain low varieties, not only in the glycosuric cases, but also, it appears to me, in other instances, in which loss of pigment points to neural impairment. The *oidium albicans* (the thrush-fungus) has been met with, and also other low forms of vegetable life, as Friedreich, Hausmann, and others have observed. Sugary urine obviously supplies a most favourable pabulum for the development of lowly organised fungi. It is interesting in this connection to note that most of the successful remedies are parasitocides, as we shall see when discussing treatment. Parts whose innervation are impaired afford, as you are aware, a favourable nidus for the development of low forms of parasitic life, both animal and vegetable; and the flourishing of such organisms in the parts in question may be regarded as evidence of neural impairment, indicated, furthermore, by the occasional presence of leucoderma.

Among local causes, we have, further, several important affections, *e.g.*—

b. Diseases of the vulva (as vulvitis, abscess, carcinoma, oozing tumour, lupus, elephantiasis, etc.);

c. Diseases of the urinary system (urethra, bladder, and kidneys);

d. Vaginitis—gonorrhœal and other.

e. Diseases of the uterus (metritis, endometritis, senile catarrh, cancer, fibroids, polypi; acrid discharges arising from some of the foregoing, or occurring mainly in association with menstruation);

f. Ovarian and other tumours, and pelvic effusions;

g. Skin-affections—eczema, ecthyma, herpes, urticaria, acne, etc.

As regards the latter, eczema may be associated with diabetes, producing terrible suffering; while urticaria suggests ovarian disease. Ecchymatous spots, with ashen-grey bases, may indicate grave cachexy (? syphilitic); while the herpetic vesicles are prone to crop out periodically in females of gouty parentage just before each menstrual period. The French attribute this to the herpetic diathesis. A pustular form of acne is sometimes accompanied by troublesome itching.

It is perhaps true, as a broad generalisation, that syphilitic eruptions are not prone to itch; but I have met with marked exceptions to this in some syphilitic affections of the vulva, as in the patient of whom I show you a photograph illustrating elephantiasis of the clitoris and vulva, from whom I removed an hypertrophied clitoris weighing a pound and a quarter. Venereal warts may excite itching.

Malignant disease of the uterus and upper part of the vagina may provoke itching in two ways: first, by acrid discharges; and, secondly, reflexly—the latter uncommonly. The same may be said of fibroids, polypi, sarcomata, etc. I have known pruritus to exist for a long time apparently as a consequence of pelvic effusions—*e.g.*, hæmatocoele, cellulitis, partly perhaps from venous obstruction, and partly from implication of nervous structures. Some discharges from the interior of the womb are virulently acrid, and excite excoriation of the parts over which they flow. These are revealed by the speculum.

Urethral and vesical affections—*e.g.*, vascular growths, stone, incontinence, etc.—are sometimes complicated by vulvar itching. Careful local investigation, therefore, is obviously necessary in all such instances; and even when the predisposing cause is general, as in diabetes, the local condition may be significant and important, yielding, as has already been pointed out, valuable information.

General Causes.—Among the general causes of pruritus vulvæ, we find: (*a*) diabetes (glycosuria), (*b*) pregnancy, (*c*) gout (or lithiasis), (*d*) syphilis, (*e*) prurigo senilis, and perhaps (*f*) the dartrous diathesis of the French. (Diphtheria must be mentioned as an extremely rare cause.)

a. The patient whom you have seen is now a type of the diabetic cases. Such are not uncommon; but they usually escape detection until other symptoms obtrude themselves. I have shown you and met with many such; although usually among the middle-aged or elderly, yet also in patients under twenty, as in the case of a young woman who was under my care some years ago. She consulted me for severe pruritus vulvæ; and, on examination, I found extensive eczema. I at once examined her urine, and found sugar. She had then no other symptom indicative of diabetes, nor did she present any for many months; but she ultimately died of it; and I believe her brain is figured in Dr. Dickinson's able work on diabetes. We have had other cases here, as you know, notably one in which diabetes came on rapidly after severe mental trouble; the vulvar pruritus alone leading to its detection.

b. Pregnant women are liable to a severe form of pruritus vulvæ. It is usually accompanied by an irritating discharge—whitish, creamy, or yellow in colour, and occasionally very abundant. Sometimes aphthæ and erosions are seen upon the turgid labia or cervix, or there may be vaginitis granulosa. Most of the cases that I have seen have been accompanied by extreme venous turgescence. The distress experienced

by some sufferers appears to be painfully augmented by the exalted nervous tension attending pregnancy. Parturient women seldom make complaint of pruritus; but I have seen a few instances in which it occurred, and it has then been associated with hydroa or herpes gestationis.

c. The gouty form is not uncommon, but, fortunately it is seldom intense or obstinate unless complicated with glycosuria. It may be seen in plethoric women, even when young, recurring before menstruation, when the urine is apt to be loaded with lithates. Sedentary habits, beer, and strong wines, aggravate it. Stout gouty women at the change of life are prone to suffer from vulvar irritation; some, doubtless, are examples of gouty glycosuria, in whom climacteric disturbance intensifies the mischief. Ordinarily indulgence in the pleasures of the table provokes itching, while abstinence alleviates. Obese elderly women are liable to vulvar irritation, the secretions of the parts apparently possessing very irritating properties; but you will be amply repaid for your trouble by systematically examining their urine for sugar, for thus you may be enabled to detect latent diabetes.

d. As regards syphilis, it is seldom that the early or acuter manifestations of the disease excite itching. It is associated rather with later phenomena, as in the case of elephantiasis already mentioned; but chancres and venereal warts may provoke much irritation.

e. Sometimes intractable pruritus vulvæ appears to be part of a general affection, the so-called prurigo senilis, and is associated with general cutaneous hyperæsthesia. Klob says that there are little elevations of the skin, like goose-flesh, consisting of growths analogous to tubercular formations, and giving rise to violent itching. These cases are grave. Some are amenable to the bromides, which are advocated by Gueneau de Mussy, in the form of lotion or ointment, as well as internally. Arsenic and cod-liver oil are also indicated. Such cases are not to be confounded with senile pruritus arising, as commonly happens, from psoriasis.

f. A tendency to pudendal itching seems to prevail in those who have what the French call the dartrous diathesis. In them, fissuring of the affected parts is often observed, the skin presenting a glazy, cracked appearance. Renal disorder, notably oxaluria and inadequacy, may be associated with this condition.

All forms of pruritus vulvæ are subject to periodical exacerbation. Some patients suffer only at night, after becoming warm in bed, experiencing comparative freedom during the day. All who menstruate are conscious of aggravation at that time. Stimulants, as a rule, exert an injurious effect. Sedentary occupations aggravate pruritus: governesses and seamstresses, for instance, suffering much, as also do those who work treadle sewing-machines. Piles and hepatic disorders generally are conspicuous.

Treatment.—While in many cases vulvar itching readily yields to treatment, in others it proves obstinate and intractable, taxing our therapeutical resources to the utmost. Here, as in other affections, a clear diagnosis as regards causation is generally essential for successful treatment. It is obvious that a symptom owning so many and varied causes cannot be appropriately treated in a routine manner; search must be made into the origin of each case, and treatment based upon the knowledge thus acquired.

Attention to cleanliness will often do much to allay irritation, and should always be enjoined. Demulcent washes are preferable to soap, unless carbolic or coal-tar soap be used, and usually even these are inadmissible. Almond-meal, strong bran-water, decoction of rice, marsh-mallow, slippery elm, or fine oatmeal, are suitable, especially the first, which, if pure, yields during use a marked odour of hydrocyanic acid, and appears to soothe materially.* The prohibition of friction may be required, some afflicted sufferers finding transient relief only during scratching, which may be indulged in to an extent involving serious consequences. Relief may be so frequently sought in this manner, as to exclude sufferers from society, and even from the family circle; while other regrettable results, moral as well as physical, may ensue.

When pruritus is due to acari or pediculi, ointment of sulphur, white precipitate, or stavesacre speedily cures, by destroying the insects and their ova. If nits persist about the pubic hairs, a lotion containing bichloride of mercury and acetic acid will dissolve them. Ascarides are destroyed by a carbolic lotion (1 in 60); but general, rather than local, treatment should be relied upon for their eradication—iron, quinine, cod-liver oil, together with enemata of hamamelis, lime-water, iron, etc.

The vegetable parasites are very efficiently treated by unirritating parasiticides, e.g., borax, boracic acid, sulphurous acid, etc. Here I would again emphasise the fact that most of the favourite remedies for

vulvar pruritus are parasiticides. It suggests that—whether from the sugary pabulum provided by diabetic urine, or from alteration in the nutrition of the parts from neural impairment, or from a combination of the two, when coincident—the immediate exciting cause of pruritus is, in numerous instances, the growth upon the implicated parts of low forms of vegetable growth.

Friedreich (Virchow's *Archiv*, Band 30, p. 476) alleges that the pruritus is due to the development of fungous organisms, and my own observations are certainly confirmatory of this view. It is a curious clinical fact, that patients are often freed from days from itching by a single application of a parasiticide; I have observed this repeatedly in glycosuric cases, after the use of a strong borax lotion. It is best to use such remedies in a fluid form, for, when necessary, powerful combinations may thus be made in the unhappily intractable cases. In my experience, fatty preparations of drugs do not suit so well for local application as non-fatty; and yet great relief may be afforded by some ointments, as we shall see presently.

Many cases of pruritus vulvæ are promptly relieved by a borax lotion, and it is well to use this simple and efficacious remedy where not contraindicated. A drachm to five ounces of warm water is a good standard strength, but a stronger solution is usually needed, seldom a weaker. Hydrocyanic acid may be added—say ʒj of the dilute acid to ʒxx, or morphia (gr. ij), atropia (gr. ½), aconitia (gr. ½), or veratria (gr. ½). Infusion of tobacco (half an ounce to the pint) alone relieves some cases, and forms a good vehicle for borax or boracic acid. It is not well to use glycerine with the borax as a rule, as it is apt, owing to its affinity for water, to aggravate the irritation. Some find relief from chloral lotions, but the drug has not always suited. Strong decoction of poppy is a soothing vehicle for borax, etc. Ice alone will relieve some; while others can get relief only from the use of very hot water. In excessively severe cases, the ether-spray might be tried.

Boracic acid is an excellent remedy; but, being much less soluble in water than borax, it is not so handy as a lotion. It may be combined with hydrocyanic acid, morphia, atropia, aconitia, veratria, etc. In the form of ointment, where fats do not disagree, it often soothes greatly. A non-rancid fat should alone be employed as the vehicle, e.g., freshly made spermaceti cerate, vaseline, fossiline, or purified benzoated lard, etc.

Lotions of iodine occasionally answer, e.g., two drachms of iodine in ten ounces of elder-flower water. Electricity may afford relief in neural cases. Probably faradism would be the preferable form.

In simple vulvitis, lead, borax, or carbolic lotions relieve. An ointment of calomel or bismuth is also good. Malignant affection of the parts call for appropriate treatment, such as ablation, where practicable; but sedative applications (conium, opium, belladonna) alone are often all that we can employ.

Urethral caruncles should be removed; and urethritis, gonorrhoeal or other, treated *in loco*. Cystitis, stone, and kindred vesical affections and renal diseases, must be treated according to their several indications. Success is unattainable if they be overlooked. Vaginitis, gonorrhoeal or otherwise, demands thorough treatment. The packing of the upper part of the vagina with a tampon soaked in glycerine, with carbolic acid, lead, tannin, chloride of zinc, or borax, seems the most prompt method of cure; but injections of these agents may suffice, and may be preferable. When the itching is associated with chronic metritis, iodised tampons are useful; and so are copious irrigations of the parts with warm water.

When vulvar irritation arises from acrid discharges proceeding from the uterine cervix or cavity, the use of a tampon filling the top of the vagina is most efficient. Cotton-wool, iodised or carbolised, answers well. As glycerine is apt to excite a watery flux, it is not always admissible, but may now and then be required. Absorbent wool, dusted with iodoform, boracic acid, morphia, tannin, camphor, chloral, and such like, may be packed against the cervix uteri, so as to arrest and disinfect virulent discharges; the choice of drug being guided by the form of disease present. It is necessary to attach a string to each tampon to facilitate its withdrawal. Vaginal and pudendal pruritus, arising from acrid uterine discharge, is mostly seen in elderly women, and may be accompanied merely by glazy redness around the ostium vaginæ. Search for uterine discharge may, therefore, be necessary. I have seen it in cancer of the fundus uteri, as well as in senile catarrh.

Local treatment by the tampon may be demanded in malignant disease of the uterus, and also in fibroids and polypi when accompanied by irritating discharge, e.g., in disintegrating calcified growths. Removal of the diseased structures is preferable where practicable; and the same may be said of cases dependent upon ovarian growths. Urticarious itching is the form of pudendal irritation mostly seen in association with ovarian tumours. A lotion of bicarbonate of soda, or one of borax with hydrocyanic acid, generally relieves. Magnesia internally is useful.

* Experiment has proved that hydrocyanic acid is evolved.

When there is previous turgescence of the vessels of the part, as may be seen from stasis in some pelvic effusions, relief is afforded by the watery flux provoked by the presence of a well-soaked glycerine tampon; and a mercurial and saline purge is helpful when portal congestion is present. Eczema—often symptomatic of glycosuria, remember—may be very obstinate. Dusting freely with fine oxide of zinc answers well when ichorous weeping is abundant. If fissure be present, a poultice formed of the clot resulting from the addition of two drachms of liquor plumbi to ten ounces of new milk is most useful. Sometimes calomel ointment will alone relieve, as in certain instances of anal mischief; or bismuth may answer, dry or otherwise. Mercurial ointment suits certain cases excellently.

Angry ecchymatous spots appear to yield only to calomel, either dry, or in the form of ointment or of black wash. Opium is a valuable adjunct, both internally as well as externally.

Herpetic eruptions are benefited by a small mercurial dose followed by a saline purge, as the effervescent sulphate of soda; and the local use of borax lotion. If they be very severe, hydrocyanic acid and other local sedatives may be necessary; but it must be borne in mind that these herpetic manifestations generally run a definite course, the vesicles dying away completely. They are often accompanied by lithiasis, and may excite preputial herpes in the male.

It is unnecessary for me to dilate further on the importance of recognising diabetes as a cause of pruritus vulvæ. When the parent disease is discovered, those restraints upon diet, drink, etc., which observation and experience have taught us to be necessary, should be strictly enjoined. Unhappily, we have no cure for confirmed diabetes, but much may be done by judicious treatment and management, alike for those who are threatened with glycosuria, as for advanced cases. Immense comfort may be secured by the habitual use of cleansing ablutions, and of borax or boracic acid.

Gouty diabetics may experience much benefit from a course of the Bath waters and baths, or from those of Carlsbad, as I have seen there; but I doubt whether confirmed and advanced diabetics are so relieved. The insomnia of diabetic pruritus vulvæ sometimes shows a gratifying amenability to codeia, in the form of one-grain doses in pill. The bromides are also useful as hypnotics.

The distress that pregnant women sometimes experience, especially towards the latter months, may be terrible. When associated with aphthous ulceration, and the *oidium albicans* is present, nothing relieves more quickly than a lotion of sulphurous acid. Some prefer the hyposulphites, and in either case prolonged use is undesirable. As sulphurous acid is very volatile, it is best to mix a tablespoonful of the pharmacopœial solution with half a pint of warm water, barley-water, or almond emulsion, freshly for each occasion. Another very useful lotion is formed by two drachms of bicarbonate of potash in half a pint of water. This should also be injected into the vagina; it checks the discharge, often alkaline, which seems to excite irritation. Borax is again a valuable agent, and so is lead.

In some cases, relief is only obtained after treating the cervix uteri; as when aphthous ulceration is seen around the os. Nitrate of silver, lightly used, suffices. Bromide of ammonium internally is highly serviceable. Attention should be paid to the state of the bowels, and to the hepatic and renal secretions, for in many cases elimination is defective. Turkish or hot-air baths exert a better effect over some of these cases than any ordinary treatment; and the same remark applies to certain other varieties of pruritus vulvæ, *e.g.*, those seen in the obese, gouty, and (senile) pruriginous. Jaborandi may prove very helpful under similar circumstances, by producing profuse diaphoresis. Diuretics—juniper, broom, potash, lithia, etc.—are often beneficial, as in gouty cases, especially when combined with colchicum. Restrictions as regards meat, beer, and wines, should be imposed on the subjects of lithiasis.

When vulvar pruritus appears to be part of a general prurigo senilis, besides the local applications already indicated, a lotion of bromide of potassium may afford ease, as has been shown by Dr. Gueneau de Mussy. The same drug given internally is helpful, the affection appearing to be part of a general nervous erethism. Arsenic exerts a controlling effect in some instances of senile prurigo, as well as in those due, as the French allege, to the darts of diathesis.

Arsenic may be said to be indicated in the neurosial forms; and especially when there is marked loss of flesh. It has appeared to me to benefit most those who are the subjects of leucoderma.

It remains only to remark that, in the intractable cases, frequent changes of remedies may be inevitable for the relief of torment. Chloroform locally applied answers occasionally; it may be used in the form of vapour, liniment, ointment, or lotion. Bichloride of mercury, also a parasiticide, gives relief to some in the form of a lotion, but it requires caution in its use. Used in the proportion of gr. i to gr. v to ʒviij of mistura amygdalæ, it may afford great relief.

I have no experience of section of the pudic nerve in inveterate cases, nor am I aware that it has ever been practised; but Sir J. Simpson mentions that he once severed the skin from the subjacent structures, with considerable benefit.

ABSTRACT OF LECTURES ON THE STRUCTURE OF THE SKELETON IN THE SAUROPSIDA.

Delivered at the Royal College of Surgeons of England.

By W. K. PARKER, F.R.S.,
Hunterian Professor of Anatomy in the College.

LECTURE III.—THE LIZARD.

THOUGH some of these animals have a soft covering of integument, in the majority there is to be found an epidermic exoskeleton, composed of horny plates, tubercles, or spines, or overlapping scales. In a few, there is an ossification of the skin below the bony scales, and the body has a complete covering of bony scutes corresponding in form with the scales. The dermal ossifications of the head may coalesce with the subjacent bones; but this union of the dermal bones with subjacent parts does not occur in other parts of the body. The spinal column is always of some length; and the tail is, as a rule, long. Those lizards which possess hind limbs have a sacrum, composed generally of two vertebrae. The cervical region is curtailed in the now existing forms, in comparison with what is to be found in extinct animals of this group; in the former, it is composed of never more than nine vertebrae, and rarely so many. The atlas is composed of three pieces. Sometimes a separate ossification is to be met with under the spinal column, at the junction of the vertebrae, especially between the odontoid bone and the body of the second vertebra. The centres of the vertebrae are procelous or amphicelous. The sacral vertebrae are not ankylosed together, but are usually connected by a firm ball-and-socket joint, controlled by strong ligaments. In many of the lizards, there is a peculiar arrangement in the caudal vertebrae, which enables the creature, when laid hold of by the tail, to break it, leaving the portion in its would-be captor's hand. This consists of a thin membrane, passing transversely through the centre of the body of the vertebra, and forming a septum. The skull does not possess alisphenoids; and the presphenoidal and orbitosphenoidal portions are not ossified. An unossified space, called the parietal foramen, usually remains in its roof, in the course of the sagittal suture. A columella extends from the parietal to the pterygoid, on each side, in close contact with the membranous or cartilaginous wall of the skull. The side walls, in many of the lizards, are produced into two broad and long parotic processes; to the outer end of one of these the quadrate bone is articulated. The parietal bones are only united with the surrounding bones by fibrous tissue. This allows them a certain amount of play—so that, when the head of the animal is crushed, the bones yield or bend; and, as the brain is small, compared to the size of the interior of the box in which it lies, it is uninjured by weight, which, had there not been this arrangement, must inevitably have entirely crushed the animal's head, and killed it. The rami of the lower jaw are each composed of five separate ossifications. The limbs are in some instances developed completely, but in others there may be one pair only, or they may be absent altogether. When present, they are mere styliform rudiments, and do not form pillars of support for the weight of the body, as they do (for example) in the horse. When the pectoral arch is present, it consists of a suprascapula, scapula, coracoid, and two clavicles, united by an interclavicle, which lies in the groove of the sternum. When the hind limbs are developed, there is a complete pelvis; and the anterior margin of the pubic bone usually gives off a strong curved process. The manus usually possesses five digits; and, when this is the case, the carpus generally contains eight bones. The foot also possesses five digits. All the lizards possess teeth, which are usually simple in structure. A gland is developed in the septum of the nose, corresponding to that in some water-birds and in mammals, and has its representative in man probably in Jacobson's organ, though this is not quite certain, and would afford an excellent subject for any one willing to work it out as a thesis.

LECTURE IV.—SNAKES.

ALL the snakes possess an epidermic covering composed of flat scales, which generally overlap. They all possess a large number of vertebrae, amounting in the larger forms to over four hundred. The spinal column is divisible into caudal and precaudal vertebrae; there is no