be possible to publish a full and detailed report which will enable valid comparisons to be made with other areas.

If the differences which it is believed will be shown up are confirmed, the task will be to explain these differences. This may need much more exploration of the social, economic, and medical backgrounds of the Kampala cases than we are attempting at present. It has been suggested that some of this work should be put in hand now. For a number of reasons the Cancer Research Committee has been reluctant to embark on such activities. Firstly, it has considered that its main task is to establish the cancer incidence figures in Kyadondo as accurately as possible, and other aims have been temporarily subordinated to this. This in itself put a considerable strain on the limited staff available, and any extension might prejudice the good will and co-operation of the Kampala clinicians which has been so generously afforded to the Research Committee. Further, the collection of data on the social and environmental background of cancer patients alone might be of little use because of the lack of similar information on Africans not suffering from cancer with which it could be compared. For these reasons the committee declined to consider suggestions for broadening the scope of its survey until its primary aims are achieved.

It does, however, feel confident, as a result of its experience, that a cancer survey of the type carried out is promising and worth while in an area in which it might superficially appear to be worthless and unrewarding. Granted the co-operation of clinicians, accurate recording of cases and pertinent data, and a knowledge of the populations at risk, and particularly with the accurate recording of the addresses, cancer surveys can be carried out in underdeveloped and underdoctored areas.

We would like to acknowledge the help of our colleagues of the Cancer Research Committee. The registry is financed by the British Empire Cancer Campaign, and a special grant was made to one of us to visit Uganda and South Africa. We are grateful for the help and advice of cancer research workers in many countries.

REFERENCES

- Clemmesen, J. (1955). Personal communications. See Bibliography in Clemmesen, J., and Nielsen, A., *Acta Un. Int. Cancr.*, 1951, 1952.
Cook, A. R. (1901). *J. trop. Med. Hyg.*, 4, 175.
Davies, J. N. P., and Wilson, B. A. (1954). *E. Afr. med. J.*, 31, 395.
Gunther, J. (1955). *Inside Africa*. Hamish Hamilton, London.
Monger, E. S. (1951). *Relational Patterns of Kampala, Uganda*. Chicago Univ. Press.
Richards, A. I. (1954). *Economic Development and Tribal Change: A Study of Immigrant Labour in Buganda*. Heffer, Cambridge.
Southall, A. W., and Gutkind, P. C. W. (1956). *Townsmen in the Making. Kampala and its Suburbs*. E. Afr. Inst. of Social Research.
Steiner, P. E. (1954). *Cancer. Race and Geography*. Williams and Wilkins, Baltimore.

DYSpareunia

BY

ELEANOR MEARS, M.B., Ch.B.

The term "dyspareunia" evolved from the Greek word meaning "badly mated," but it is now most often applied to painful or uncomfortable intercourse. Those who are dealing with psycho-sexual problems in clinics or private practice know how often dyspareunia has been responsible for domestic unhappiness, emotional upsets, and marriage breakdowns. The patient who flinches and resists pelvic examination by lumbar extension and adduction of her thighs is by no means uncommon. Even in the limited time available in a family planning clinic the observant doctor who makes a few tactful inquiries and shows her awareness of and sympathy with the problem may find a grateful patient only too anxious to unburden herself and obtain advice about her distressing troubles.

Dyspareunia may be due to physical or to psychogenic causes. In the latter case it is always associated

with vaginismus (spasm of the muscles of the vagina and introitus), but physical causes, too, may produce a vaginismus which may need treatment after the original cause has gone. While the patient with a dyspareunia due to physical causes may present herself complaining of discomfort at intercourse, in psychogenic cases the patient often comes with other presenting symptoms—for example, subfertility. It is indeed remarkable how ignorant lay people are and how often one finds on examination that the marriage is not consummated, sometimes without the patient being aware of this.

It is usually easy to distinguish between physical and psychogenic dyspareunia at the time of examination. The patient who is tender will flinch, but reassurance that she will not be hurt by examination will enable her to relax immediately. The patient with real vaginismus will reveal herself by her inability to do so.

Dyspareunia due to Physical Causes

The physical causes are many and should always be first excluded. They are dealt with briefly.

Traumatism.—Traumatism of the introitus and urethral meatus is quite frequent among the newly wed. It is sometimes associated with a low-grade urethral infection and is frequent enough to be called honeymoon dyspareunia. Cystitis should be treated when present and advice given to the husband *re* gentleness and preventing, temporarily, any pressure on the anterior wall of the vagina.

Vulvo-vaginal inflammation is a very common cause, with or without leucorrhoea. A severe trichomonal or monilial infection always produces some discomfort, particularly when penetration is attempted. Treatment will depend on diagnosis. Coitus is best avoided to begin with, and later a condom should be used to prevent reinfection. Inflammation of a rigid hymen or tender hymenal tags may need treatment. Pelvic infections, inflammations of the cervix, chronic pelvic congestion, cellulitis, salpingitis, etc., may all cause deep dyspareunia. Until treatment is complete a coital position should be adopted which will avoid deep penetration.

Senile Vaginitis.—After the menopause the vaginal mucosa may become dry and inflamed. The vagina and introitus often shrink: this may not cause difficulties in a gravid woman, but can be very troublesome in women who have never borne children, and particularly in those who have married late in life. Fortunately, the administration of oestrogen (I prefer it given locally—a small dose is sufficient—say, a pessary of 1,000 units inserted at night two or three times weekly) and the use of a lubricant are often all that is necessary. As it is more likely to occur if coitus is discontinued for a time and then resumed, it is sometimes advisable to give the woman a glass dilator to keep herself stretched, if for any reason coitus is temporarily discontinued.

Kraurosis Vulvae and Leucoplakia.—These are also common causes after the menopause. The vulval tissues may be dry and leathery, or show atrophic patches, later producing scarring, shrinking, and narrowing of the vulvar orifice. Dyspareunia may be intense. Kraurosis is sometimes confused with monilial infection and can be differentiated only by microscopical examination. Treatment is expectant in mild cases: the cause can often be held in check by thyroid therapy, and small doses of oestrogen are often very useful. A careful regular watch must be made for malignant changes.

Lax vulvo-vaginal tissues can produce dyspareunia, particularly if associated with retroversion and prolapsed ovaries. Exercise, faradism, and replacement of the uterus are all sometimes useful.

Endometriosis.—Dyspareunia is an almost constant symptom.

Perineorrhaphy.—A good repair may sometimes cause dyspareunia after the menopause, when the vaginal tissues lose their elasticity. Treatment is the same as for senile vaginitis.

Improper Technique.—Roughness on the part of the husband and inadequate coital technique and insufficient lubrication may all cause discomfort at intercourse. Sometimes even hairs forced into the vagina with coitus have been known to be the cause. Irritation, too, from an ill-fitting or inadequately lubricated condom may provoke this symptom.

Smarting from contraceptive chemicals is found occasionally, necessitating a change in the chemical prescribed. It is to be remembered, however, that any chemical is, of course, apt to produce smarting of a recently ruptured hymen.

Hymen difficulties are probably the most common of all. Discomfort is usually produced when intercourse is first attempted, until the hymen is broken or stretched. The amount of discomfort, of course, varies tremendously, and with a thick rigid hymen can be most troublesome. Where the hymen is slight and thin it is easily stretched or broken; the discomfort is transitory and soon forgotten. Where the hymen is thick and rigid the discomfort may persist for a long time. It is, alas, not uncommon to find patients who complain of dyspareunia for years after the hymen has been stretched, just because there was hymenal pain at the beginning of married life and this produced a habit of vaginismus which remains. It might even persist after several pregnancies.

Vaginismus of this kind is very easily prevented by premarital examination and instruction in stretching the hymen gradually with the fingers. It is only rarely necessary to stretch it under local or general anaesthesia.

Where the hymen is rigid and treatment is delayed, vaginismus is always present (patients do delay seeking advice only too often—the history of unconsummated or uncomfortably consummated marriage may be anything from a few weeks' to several years' duration before the woman plucks up courage to visit a doctor; the longest I have known is 15 years). *It is not enough in these cases to stretch the hymen and remove the physical barrier. No vaginismus is ever cured by surgery.* A process of education in relaxation as outlined below is essential. Often, indeed, such patients give a history of earlier surgical intervention in or out of hospital, without any follow-up and without any improvement.

The patient who presents with an intact hymen a few weeks after marriage may be taught to stretch it herself digitally if she has a mind to try and the hymen is not too thick and rigid; but where the marriage is of longer duration the woman rarely feels able to try this, and a hymenectomy with a local analgesic or under gas, and preferably at the time of her visit, should be done. (Although the patient has procrastinated for so long, it is much kinder for the doctor not to put it off any further.) It is, of course, a relief to the patient to find that there is a physical explanation of her failure to consummate—it relieves her of a great load of guilt and makes her most co-operative.

Psychogenic Causes of Dyspareunia

In dyspareunia from psychogenic causes the pain is due to muscle spasm secondary to emotional tension. Vaginismus becomes a defence against sexual intercourse, and may have its roots buried so deeply that psychotherapy is needed to bring them to light.

Space does not permit me to discuss these at length, and, in any case, the clinic doctor can only diagnose and refer to someone skilled in psychotherapy.

Briefly, vaginismus is commonly due to infantile pelvic trauma with an enema, catheter, etc. For example, one patient whom I saw recently gave a history of attempted catheterization by a nurse in hospital at the age of 11. The attempt had to be given up because it was so painful.

It is small wonder that she could not "bear to let anyone near her" since, and had a vaginismus after four years of marriage despite hymenectomy at two months. It may be due to fantasies of injury since childhood, to fear of being harmed (such patients often complain that the penis is too large): it may be a sign of masochistic acceptance of punishment or to unconscious sadism towards the husband because of identification with the father; it may even be due to mother fixation at the pre-oedipal level; it may be due to unconscious general hostility towards the opposite sex, to fear of pregnancy, to disinclination to accept the feminine role—perhaps because of hostility to father.

While many cases respond to the superficial therapy about to be outlined, some are doomed to failure at the outset by the nature and depth of their resistance. The doctor treating dyspareunia must learn to distinguish between them.

Treatment of Vaginismus

The approach of the doctor towards patients with vaginismus is most important. Most patients have had to summon all their courage to come with this problem. Many of them come reluctantly, urged by their husbands, make all kinds of difficulties, and are late for appointments, yet they must be met with kindness, sympathy, and understanding. The doctor must be articulate on sex matters and not inclined to condemn. The doctor is really a substitute for parental authority and by his/her attitude helps to neutralize the repressive effect of years of taboo and false attitudes. Occasionally a patient will seem completely self-possessed and rational about her problem, yet become quite hysterical when examination begins. Any such release of emotional tension is, of course, therapeutic. It is helpful to take time to talk about her attitude towards menstruation, sex relationships, and her upbringing, but if she does not discuss these matters easily without reluctance they can be left until later, when her confidence has been gained.

Then the patient is undressed and prepared for examination. This must be done very gently with explanations of what is being done and a full assurance that nothing will be done to hurt her. I always find it helpful to explain that the vagina is made of muscle and can always be tightened so that examination and intercourse are uncomfortable, even in a woman who has borne several children, and that neither is uncomfortable with a relaxed vagina. I further get her co-operation by assuring her how common the problem is and by promising to stop whenever she asks. I then see if she will let me gently insert one lubricated finger so that I can find out whether there is any physical difficulty. The patient is, of course, always relieved if there is a physical explanation so that she can feel it is not her fault. If there is no physical cause for the vaginismus, I explain to her how the vaginismus has come about (muscle spasm due to emotional tension). I reassure her that everything is quite normal otherwise (women are very often worried about whether they are too small inside), and I explain carefully that coitus must not be attempted until she has learnt to relax sufficiently and that no one can do this for her. Full explanation and reassurance along these lines usually makes them immediately co-operative.

I then ask the patient to insert something in her vagina, sometimes her finger, sometimes a glass dilator, sometimes a cap. I find it better to leave the choice to the patient: so often patients who have had a surgical hymenectomy followed up with glass dilators, without any explanation, have hated inserting dilators and found them consequently very painful, yet will insert a finger readily. On the other hand, there are some women who cannot bear to touch themselves with their fingers, but are quite happy to insert dilators. If, however, the patient also wants contraceptive advice, I find the cap the most useful of all. If there is any resistance to inserting a glass dilator it can produce a painful vaginal spasm which is only relieved by the patient removing it, thus justifying and confirming her fears, whereas a cap seems bigger to begin with, goes in

easily, and, even more important, cannot be felt once it is inside, even with a severe vaginismus. I find this gives the patient a tremendous sense of achievement and relief, and she often expresses a feeling of surprise that something so big can go inside without worrying her.

Whatever method is decided upon she should be encouraged to insert it, adopting a stooping position and pushing in a backward and upward direction. A simple anatomical explanation with a diagram or plaster cast makes it easier for her to understand what she is to do. Most patients will insert a finger or a No. 1 dilator readily under guidance, but this may require considerable firmness on the part of the doctor. It is helpful if she achieves something and is given praise for her attempt before she goes. This gives her a real sense of achievement and increases the rapport between doctor and patient, and usually makes it much easier for her to talk freely about her parental and marital relationships and to relate this to her vaginismus. She can then be sent home to practise by herself (twice daily and using a lubricant) and should be given a definite appointment to return.

When she returns for the next visit, if she has followed instructions, she will be beginning to realize how to relax and how much relaxation helps the introduction of dilator/cap into her vagina. If she can manage this easily, she can then be given dilators of increasing size until she can insert a No. 5 without anxiety or discomfort. When she achieves this she can be told that she is now ready to have relations with her husband. While most patients respond very quickly, there are, of course, those who return with excuses about not feeling well, or being too busy to carry out their instructions. Such patients must be confronted with the fact that they are rationalizing and resisting treatment, and should then be encouraged to achieve a little more under guidance, before being sent home to try harder until the next appointment.

When the patient is ready to resume coitus, it helps to discuss position, to encourage the use of a lubricant, and to make a further appointment for her to come back and report progress. This further appointment gives an opportunity for discussing sexual adjustment. It is most important that patients should realize that the achievement of sexual harmony takes time and practice. They should be encouraged to return for further advice on this problem if they have any difficulties.

Treatment of Hyperaesthesia

There are some women who have such a degree of vulval hyperaesthesia that they resist even touching at the introitus. I find it helpful to explain that of course there is feeling in the vulva and that it shows that she is really very normal. I give a simple analogy to explain that it is she who decides on the nature of the feeling. I ask her to imagine being touched on the bare arm by someone she is very fond of and by someone she dislikes. She will agree that the touch of the first gives her a pleasant feeling and the touch of the second a feeling of loathing and disgust, although the touch has been exactly the same. She is then usually prepared to see that some unpleasant or painful experience—for example, catheterization, enema, or soap-sticks in childhood—has left the association in her mind that any touch is unpleasant. Talking out such experience usually helps her to be co-operative about examination. It is interesting that a few patients are quite happy inserting caps, tampons, etc., for themselves and enjoy sex relations with their husband, but cannot bear to let a doctor touch them; other women can relax well for medical examination but have a horror of doing anything to themselves. Such feelings must, of course, be respected.

I find that this method of treatment at a superficial level, with explanation, reassurance, and suggestion (which plays a large part), can be most effective in a big proportion of cases of vaginismus. Where they do not respond in two or three sessions, however, it is most important to send patients for psychiatric help.

To-day's Drugs

In this column we publish from time to time authoritative notes on a selection of drugs in current use.

Distaquaine V-K (The Distillers Company (Biochemicals) Ltd.).—Phenoxymethyl penicillin as potassium salt in 125-mg. tablets.

V-CIL-K (Eli Lilly and Co. Ltd.).—Phenoxymethyl penicillin as potassium salt in 125-mg. and 250-mg. tablets.

Crystapen V Tablets and Oral Liquid (Glaxo Laboratories Ltd.).—Phenoxymethyl penicillin as potassium salt in 125-mg. and 250-mg. tablets, and as calcium salt in elixir, 62.5 mg. in 60 min. (3.5 ml.).

The tablets of phenoxymethyl penicillin, or penicillin V, contain the potassium salt, which is highly soluble and rapidly absorbed, particularly when taken before a meal; the oral liquid is intended for children and contains the calcium salt, preferred because it has less taste. Penicillin V is the only form of this antibiotic resistant to the destructive action of gastric acid; its discovery has consequently placed oral treatment on a new basis. Absorption is dependable, although apparently not complete, and a dose of 250 mg. (equivalent to 400,000 units) given at intervals of 4 or 6 hours, should have a therapeutic effect not far short of that obtainable with the same dose of "soluble" penicillin (the sodium or potassium salt of benzyl penicillin) given at the same intervals by injection. Larger doses can be given if necessary. If renal excretion is delayed, quite high concentrations can be maintained in the blood by also giving benemid. Such measures have been successful even in the treatment of bacterial endocarditis, though this is an exceptional use. These preparations are chiefly of value as the most convenient means of administering penicillin in ordinary cases of acute infection due to susceptible organisms, such as streptococcal sore throat or otitis media, and pneumococcal pneumonia.

N.H.S. basic price: distaquaine V-K, 100 125-mg. tabs., 40s. 6d.; 100 250-mg. tabs., 80s. V-CIL-K, 100 60-mg. tabs., 19s. 5d.; 100 125-mg. tabs., 40s. 6d.; 100 250-mg. tabs., 80s. Crystapen V, 100 125-mg. tabs., 40s. 6d.; 100 250-mg. tabs., 80s.; 2 fl. oz. oral liquid, 7s. 7d.

Noradrenaline (Carnegie) (Savory and Moore Ltd.).—Noradrenaline has been used since about 1950 to restore the blood pressure in certain types of shock. It is usually given by intravenous infusion of a solution containing 4 mg./litre of L-noradrenaline base in 5% dextrose, physiological saline, plasma, plasma substitutes, or blood. The rate of infusion is adjusted to give the best response, which usually requires about 2–4 µg./min. L-Noradrenaline acid tartrate (or bitartrate) is included in the B.P. 1958. Noradrenaline (Carnegie) is a solution of this salt which does not differ from other preparations except that it is supplied in a 1-in-10,000 solution ready for immediate intravenous injection in emergencies, as well as the more usual 1-in-1,000 solution (containing 1 mg. base or 2 mg. acid tartrate per ml.), which requires dilution for intravenous use.

N.H.S. basic price: 6 4-ml. ampoules, 8s.; 6 2-ml. ampoules, 5s. 6d.

Lorexane No. 3 (Imperial Chemical Industries Ltd.).—This preparation is in the form of a shampoo which contains lorexane (gammexane). Field trials have indicated it to be a satisfactory treatment for pediculosis capitis and it appears to be non-irritant and free from any secondary or toxic effects. This treatment has the advantage over D.D.T. that it needs to be applied for only a few minutes. As with D.D.T., the treatment has to be repeated a week after the first application.

N.H.S. basic price: 50 g. tube, 2s.,