NON-OPERATIVE GYNÆCOLOGICAL TREATMENT.*

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Leucorrhœa.

It is my object in this communication to attempt to help you in the treatment of those cases which are commonly met with in general practice. Take for instance the symptom of leucorrhœa. This condition as you know can be met with in the first few days of life. We know now that this is due to a carry-over of maternal œstrin to the foetus which causes hyperæmia of the genitalia and keratinization of the vaginal mucous membrane and therefore, like the so-called precocious menstruation of infancy (which is due to more extreme hyperplasia) can be left alone, for in the course of five or six days this carry-over of œstrin will be terminated by excretion through the kidneys.

Leucorrhœa is not uncommonly a source of anxiety in the virgin and will tax all your ingenuity; but you must realize that there are two types, the one is the non-infective type, which has a normal pH. of 4-5, and is made up of white, cheesy material showing only epithelial cells and Doderlein's bacillus. This condition is most often found in young girls and women whose periods are not regular. Such leucorrhœa tends to be inconstant. Treatment hitherto, whether by tonics or vitamin A and D preparations, has been disappointing, but during the last year, on the assumption that the fluor was due to hyperæmia and excessive folliculin, I have been giving patients one R. unit ampoule of Progestin twice a week during the two weeks before each period and have had some success.

The other or infective type in virgins is by far the most common, and is met with in all communities. In such, there is no rupture of the hymen nor is masturbation a feature. The discharge is yellowish and often irritating. The pH. is between 6-7 and if examined, shows every kind of organism. In many, both in out-patients and consulting practice, you will often see that the discharge is thin and frothy and that there is obvious red excoriation of the nymphæ and perineum. In these, if a hanging drop in saline is examined, a very large proportion will show the trichomonas flagellate. You may ask how a pH. examination can be done by the general practitioner. The B.D.H. capillator enables one to determine the pH. of any discharge. In the virgin all that is necessary is to pass a small Volkman spoon into the vagina. The discharge is picked up from the posterior cul in the spoon and is then tested by mixing it with the general indicator, which for practical purposes gives one the approximate pH. according to the colour index. If the discharge is on the 4-5 range, the probabilities are that it is of the non-infective type; on the other hand, if it is on the 6-8 grade, then you are dealing with the infective type and if such discharge is examined by a bacteriologist, staphylococci, enterococci, diptheroids, etc., are found. If a frothy yellow discharge is present, it is more probable that trichomonas vaginalis is the cause.

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The ætiology of this infective type is not proven, but I have a shrewd suspicion that the ever popular swimming pool is a factor, since these cases have become more and more common during the last few years. *Trichomonas* infection is responsible for at least 30% and is difficult to cure, for it is apt to return during the "alkaline tide" days following menstruation. Gelatine vaginal suppositories of 1% picric acid are inserted nightly and in the morning 10 grains of quinine bi-hydrochloride to the pint of water is used as a douche. Such treatment for six weeks has given me the greatest success. On the other hand, in out-patient practice douching with a solution of commercial green soft soap, one dessert-spoon to the pint, has proved useful. Others have used a tabloid of perchloride of mercury to a pint of water and reported success. The French are very keen on Yatren application in an emulsion followed by lactic acid douching.

In the non-trichomonas or ordinary infective condition, although it is probable that there may be an erosion of the cervix and endocervicitis, in most cases surgical treatment in the virgin is not practicable. In such patients, douching through a No. 12 Jaques catheter with lactic acid, one teaspoonful to a pint, together with general hygienic measures, will probably be efficient.

I am no believer in vaccines, but recently following the line of treatment which is almost universal now in cases of vulvovaginitis in children, I have had considerable success by either giving intramuscular injections of Œstroform, twice a week or menformon tablets, 6-12,000 units a day or insert into the vagina nightly a gelatine suppository of 1,000 international units of Œstroform or menformon. The rationale of this is that glycogen is deposited in the vaginal mucous membrane; this carbohydrate is converted into lactic acid by the vaginal bacillus often by an enzyme.

In the non-virgin or married woman, leucorrhœa can be investigated without difficulty. Apart from the gonococcus, which may be found in a smear from the urethra or cervix, by far the commonest cause is an infected cervix, which has resulted from contraceptive measures, or conception, and may be accompanied by morbid conditions of the uterus or inflammatory disease of the adnexa.

I am showing you on the screen rough paintings of various types of endocervicitis giving rise to leucorrhœa. For many years we have preached that the only treatment of this condition is either the direct electro-cautery or excision. All treatment such as painting with picric acid is the very worst type of tinkering gynecology. The Sturmdorf or Bonney operation we are not concerned with today, but there is no reason why all of you should not be capable of dealing with many of these cases in your consulting room; for after inserting a speculum, you should be able to use either the radiating post-cautery knife or the needle point. The latter is for ovulæ Nabothi, the former for flat erosions. The cervix is anæsthetic and can be cauterized to a depth of 2-3 millimetres. The patient douches daily for the next six weeks and when then seen, the cervix is usually completely healed; occasionally a second application may be necessary.

This type of cervix is, I am sure, the ætiological factor of many cases of so-called *B. coli* pyelitis, for in such, investigation has shown that in 80% the pelvis of the kidney contains no organisms, whereas the bladder has a pure growth in the urine. The *B. coli* spread from the cervix into the sub-mucosal area at the base of the bladder and infect the trigone; in many the organisms pass along the

lymphatics in the sheath of the ureter to infect the lymph nodes in the hilum of the kidney causing pain and high fever. In such cases intensive alkali treatment, 1 drachm two hourly, together with local treatment to the empty bladder, once a day, such as 1 oz. of a 1% solution of mercurochrome together with an injection of some non-specific protein, such as aolan, will quickly terminate symptoms. The cervix which is the cause of the infection being dealt with afterwards.

In passing, may I briefly refer to Rosenheim's work on the subject of such pyelitis, for in the course of general practice many of you must meet with cases of *B. coli* infection which have resisted alkaline treatment and revolted at a ketogenic diet. In such, during the last six months, I have been trying out the mandelic acid treatment advocated by Dr. Rosenheim with very satisfactory results. Shortly, it consists in giving 48 grains of mandelic acid, 24 grains of bi-carbonate of soda with some adjuvant three times a day, together with a capsule of 15 grains of ammonium chloride *ter in die*, the patients not being allowed more than 2 pints of fluid per day. I have found that if this treatment is combined with an injection of a non-specific protein substance which stimulates the reticulo-endothelial system, the *B. coli* attack quickly subsides.

Many of you must have been consulted by women past the menopause who come to you because of pruritus or offensive discharge. Your mind has leapt to the thought of cancer. You have made an examination and felt nothing. There is no tumour or ulceration; prolapse does not exist. The cervix is atrophic, the vagina is salmon red and has small granular sore areas on its surface. But you must realize that after the menopause, the vaginal epithelium reverts to the condition found from the 30th day of life till puberty, or to that seen sometimes after removal of both ovaries, that is there is no glycogen, no lactic acid, no Doderlein bacillus, no oestrin and a pH. of 6-8, with the consequence that there is no natural resistance to extraneous infection. I have tested and treated a great number of these cases and in the majority complete success and gratitude can be obtained by such simple means as sugar of milk douching at night and lactic acid douching in the morning. In resistant cases, especially where there is much pruritus or dyspareunia, a cure can be obtained, even when moderate leucoplakia or kraurosis is present, with intramuscular injections of 100,000 units of oestroform twice a week. The bien-être following this treatment is, I assure you, remarkable.

Pruritus.

This is a most distressing symptom demanding the closest investigation of the skin, genitalia and rectum. In many cases no cause can be found and no local treatment is of permanent avail. In such cases prior to operation, which may eventually be necessary, such as vulvectomy or even pre-lumbar sympathectomy, I have been using 95% ethyl alcohol which is injected subcutaneously, 2 or 3 minims at a time, every half inch along the *outer* border of the area of irritation, using 10-15 c.c.'s at a sitting. This is done under gas and oxygen anaesthesia and I have found it gives relief for as long as six months. In other cases I have used benacol (Allen & Hanburys). X-rays sometimes are useful but there is always the risk of epithelioma.

Disturbances of Menstruation.

And now to speak of menstrual disorders. **Primary amenorrhœa** in young women is most often associated with hypoplasia of the uterus, a conical cervix and tented vagina. The fundamental fault lies with the hypophysis, and is linked with hypothyroidism and deficient para-sympathetic stimulation or excess of adrenalin

hormone upon the sympathetic. Kaufman sought to cure these patients by giving massive injections of oestroform which would cause hyperplasia of the uterus, but though bleeding may occur when the injections cease, this is only pseudo-menstruation, for the secretory or premenstrual stage is never arrived at unless progestin or a gonadotropic substance such as pregnyl or antuitrin S. is injected. Unfortunately after extensive trial of these massive injections I have rarely been able to obtain regular and lasting cyclical rhythm, and therefore now prefer to prescribe thyroid and iodine in small doses. These cases are perplexing, for explain it as you may, sometimes a simple dilatation and curetting starts the rhythm.

On the other hand, in those cases where amenorrhoea has occurred after months or years of regular menstruation, these pregnyl and oestroform injections are certainly effective, and I have records of three women who became pregnant after such therapy this year.

In some of these cases careful bimanual examination will show persistence of a small cyst in one or both ovaries. Resection of such frequently causes the normal menstrual cycle to return. This is important to remember, as these cases often give rise to a great deal of mental anxiety and professional dissension.

Dysmenorrhoea in young and also married women (apart from neoplasm) is sometimes associated with hypoplasia, but since we now know that folliculin causes peristaltic motility of the uterus and tubes, it is possible that some cases are due to excessive oestrin secretion and therefore should be treated by progestin which is its natural antagonist, for the hormone of the corpus luteum not only immobilizes the uterus but prepares its mucous membrane for quiet nidation of the ovum. I have had several cases of this nature which have reacted with dramatic celerity.

On the other hand, it is not improbable that the spasmodic pain is of the nature of angina, like that new and interesting type of rectal pain which has been given the name of *proctalgia fugax*, which is possibly due to spasm of the levator ani. If this is so, a capsule of chloroform or amyl nitrite or possibly adrenalin hypodermically may relax the muscle. In the married or unmarried undoubtedly dilatation with rupture of the cervical circular muscle fibres is sufficient in a number of cases but you will all meet with types of patient who have defied all lines of treatment. May I, as result of 20 such cases which have been referred to me after dilatation and drug failure, ask you to bear in mind that in a few of these there is a duplication of, or deformity of the uterus, whereas in others only a pre-lumbar sympathectomy will cure them.

Lastly, do not forget that dysmenorrhoea occurring for the first time in a woman of uncertain age, quite apart from fibroids, which are as a rule easily palpable, is often a symptom of commencing chocolate or endometriomatous cysts, which very slowly increase in size from month to month. Such cysts may be small for months and defeat all examinations, but if borne in mind will not confuse you, for they vary in size from a grape to a tangerine orange on either or both sides of the uterus.

Menorrhagia or Metrorrhagia, to use old-fashioned terms, rather than the newer one, Metropathia Hæmorrhagia in young people is occasionally a feature of hypo or hyperthyroidism. A change of climate and diet may do much good, and is probably dependent for its result upon the fresh thyro-iodine stimulus obtained. In those cases where it is impossible to alter the environment, thyroid and iodine in small doses by mouth, may be sufficient.

I have little faith in calcium, ergot, pituitary and other compound drugs, for I am perfectly certain that in cases of prolonged arrhythmic or functional hæmorrhage, that organic changes occur in the ovaries. Indeed hundreds of times at operations have I demonstrated in these cases that there are either persistent Graafian follicles with luteinization, or absence of the corpus luteum. In others the corpus luteum persists, is gross and undegenerated and no Graafian follicle is to be seen. It would seem therefore that in an early case gonadotropic substances to stimulate rupture of the follicle or normal degeneration of the corpus luteum should succeed in checking the hæmorrhage, but despite statements to the effect that antuitrin S. with, or without curetting, is sufficient and dramatic in its results, I am afraid I must ask you to be sceptical. I have tried all the preparations on the market, and have come to the conclusion that only hemi-section of the ovaries is of any avail, for restoration of the normal pituitary ovarian correlation in long standing cases.

Sterility.

It is not my duty to-day to deal with operative procedure, but I do want to remind you that insufflation alone has a 10% therapeutic value, and that it can be done in most consulting rooms without pain or any anæsthetic, provided the insufflator I show you is used and provided, of course the cervix is clean and the adnexa healthy. A nurse or your partner can listen with a stethoscope immediately over the pubes for patency. There is no reason whatever why in other cases a lipiodologram should not be done in a radiographer's consulting room, for this has a 20% therapeutic value. Moreover, if there is any defect or block, the prognosis can then be properly assessed, as you will see in the examples I show you.

I have done well over 100 hysterograms and many of the patients have become pregnant later, but apart from the usual standard rules of approaching a case of sterility, may I be allowed to state that I am sure that many are due to Anovular Menstruation. It may be that the ovum is unhealthy, but from examination of many pre-menstrual scrapings, it is perfectly certain that in the majority of these women, that either luteinization of the Graafian follicle occurs or that no corpus luteum is formed, for the scrapings show no secretory changes in the endometrium.

This being so, when no other cause for sterility exists, I think it is reasonable to assume that anovular menstruation is the main factor and so we should treat these cases with injections of pregnyl or antuitrin S. on alternate days from the 12th day of the menstrual cycle for three months. These two substances are gonadotropic and stimulate the exhibition of prolactin B. and progesterin.

On these lines, after doing a lipiodologram and requesting the husband and wife to keep apart for three months and prescribing for both $\frac{1}{2}$ grain thyroid per day, I have had considerable success during the last few years. This is a mode of treatment well within your range and can be reinforced by your giving the husband a graph as to the probable most fruitful period for cohabitation which, according to Knaus, is the 14th to 16th day before the first day of the next expected period.

Before leaving the subject of gonadotropic therapy, may I very briefly remind you that much success and kudos may be achieved in a case of threatened abortion or habitual abortion by prescribing corpus luteum hormone, such as progestin, for there seems little doubt that undesired mishap in many cases is due either to:—

(1) excess of or imbalance of œstrin which sensitizes the uterus to the oxytoxin of the pituitary and thus initiates contractions.

(2) to inadequate decidual reaction which either causes death of the ovum, or insufficient storage of progestin for healthy growth of the placenta with consequent hæmorrhage.

This being so, it is a pleasure to know that many of these cases can be carried to term by giving one R.U. of progestin or 30 R.U. of pregnyl daily at the time of threatened abortion, and twice weekly in cases of habitual abortion up to the 32nd week.

Backache.

You will have observed that so far I have said nothing about gonorrhœa, nor have I mentioned that very common type of patient who comes to your consulting room complaining of vague pelvic pain associated with backache or dragging in the groins. It may be that she has had a miscarriage or recent labour and she attaches all her troubles to such an event, or it may be that she has a retroverted uterus, with what Matthews Duncan described as a posterior lip erosion of the cervix. It may be that there is tenderness in the lateral vault of the vagina, suggesting that at some time she has had catarrhal or other form of salpingitis.

In some the uterus is actually fixed and tender, when attempt is made to hitch it forwards, or there may be actual painful enlargements of either or both ovaries. In others, there is cellulitis or parametritis.

I am perfectly aware that in general practice it is not feasible, because you know it will be unacceptable, to recommend operation to many of these patients when first you see them. Hitherto perhaps you have inclined to follow the old regime of ordering douches and plugs, hoping that time and circumstance would allay symptoms. But I do want you to realize what everybody on the Continent and in America has long proven, that a great number of these cases can be tided over operation and oftentimes cured, or their symptoms allayed, by the simple method of giving 4 or 5 injections of aolan, which stimulates the reticulo-endothelial system and output of antibodies.

I begin with 10 c.c's which is injected intra-muscularly at a point two inches to the right or left of the top of the natal cleft, taking care to massage it in for two minutes afterwards.

Some of you will be sceptical, but if ten years' experience of non-specific protein therapy is any criterion, I can assure you that this is a method well worth your attention in general practice, for you will find that tenderness and thickening and pain all disappear.

In a large majority of cases moreover, should operation eventually be necessitated, recovery will be rapid and afebrile. I use this method both before and after operation whenever I have to deal with inflammatory conditions. It is particularly valuable in gonococcal or B. coli infections.

May I remind you that many cases of low backache in women are not due to pelvic lesions, but to strain upon ligaments and joints, particularly the sacro iliac, and that the clue to such may be obtained by viewing and examining the back and lateral stance of the patient in relation to the normal line of gravity. The manipulations described by those well-known authorities, Mr. Bankart and Mr. Mennel, can be carried out under gas and oxygen anæsthesia, and at the same time a thorough pelvic examination can be made if need be.

I have recently seen one patient whose backache and lordosis were revealed in the radiograph to be due in reality to dislocation of the coccyx which was cured by local manipulation, and another patient in whom spina bifida occulta was the cause.

Lastly, remember that in some elderly women pains in the back are often associated with abdominal obesity and the change of life, the alteration in stance causing ligamentous strain.

In others it is due to prolapse produced by weakening of the fascial supports and levator ani, which is analagous to the pains in the leg of flat foot. I am not suggesting that every woman requires operation or that last indignity, the pessary, but I would like to tell you that from the time of the Hittææ of Greece, it has been known that wearing a small ball pessary and doing the exercises described so fully by Dr. Stacey Wilson can relieve the symptoms of such patients. Personally I insert a ping-pong ball. The ancients used a ball of Nile clay.

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