ABNORMAL VAGINAL DISCHARGE

A PRELIMINARY REPORT ON THE WORK DONE BY THE ‘VAGINAL DISCHARGE CLINIC’ OF THE GROOTE SCHUUR HOSPITAL, CAPE TOWN

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The natural moisture of the vagina varies in quantity and quality according to the age, menstrual phase and gestational stage of womankind. This natural moisture may be increased during periods of stress and strain and, under these conditions, may extrude through the vulva. This may or may not produce slight discomfort, which is more psychological than physical in nature. This type of discharge has rightly been referred to as ‘the thermometer of woman’s health’. On the other hand, should the vaginal discharge persistently or paroxysmally be copious, it becomes the source of physical and sometimes gross mental discomfort. This unpleasantness may be increased unless adequate steps are immediately instituted for complete aetiological investigation, followed by thorough institution of treatment. Investigations directed at exposing the aetiological agent are time-consuming and may not be adequately undertaken in a busy gynaecology outpatient department. Furthermore, these discharges may but be the very early symptoms and signs of graver diseases. For these reasons, i.e. primarily for the patient’s benefit and, secondarily, for stimulus of thought, a vaginal-discharge clinic was started in this hospital. In addition, in conjunction with the erosion and endocrine clinics, this investigation forms part of a wider drive aimed at the discovery or prevention of genital cancer.1

Several authors call attention to the fact that trichomonas infection is a disturbing factor in the study of vaginal smears, and may result in false interpretations.2 3 Davis4 has recently tried to correlate his findings that trichomonas infection was

7 Ingelfinger, F. J. (1955): Practitioner, 175, 424.

* A paper submitted to the South African Medical Congress, Durban, September, 1957.

achalasia. It is suggested that this behaviour is an example of Cannon’s law, that a denervated structure is abnormally sensitive to certain chemical stimuli.6

In achalasia the dysfunction appears to be that with swallowing a true peristaltic wave does not develop and move down the oesophagus; consequently the vestibule does not receive its normal stimulus to relax. There is thus ‘achalasia’ at the cardia, but the failure to relax is secondary to diffuse disease of the body of the oesophagus.

At present there is no definitive therapy. Although nitrates are occasionally of some use, other antispasmodics do not help, and anticholinergic drugs may be worse than useless; the intramuscular administration of 25–50 mg. of methantheline bromide (Banthine) to normal subjects may induce a transient state resembling achalasia.7 This is another point supporting the denervation concept of the aetiology of this disease. Many cases will need to have the muscle fibres of the vestibule ruptured, so that food can enter the stomach by gravity and with the aid of pharyngeal and upper oesophageal contractions. This can usually be accomplished by brusque dilatation with a hydrostatic bag under fluoroscopic control; if this fails, or if the oesophagus is too dilated and tortuous to permit of accurate placement of the bag, operative section (Heller’s operation) may be required. This usually works, but if the dilatation is too extensive, gastro-oesophageal regurgitation may result, with consequent peptic oesophagitis.

Thus, while the treatment of achalasia remains difficult, there have been advances, and the pathogenesis, if not the aetiology, is now known. But much further work is required before we can say that this uncommon but disabling malady has been mastered.

3½ times more frequent among hospital patients than among private patients, as were the reports of malignant cells in the smears. He concluded that possibly the fact that the uncircumcised male may carry trichomonads under the prepuce might be a reason for the increased incidence of carcinoma. Authorities differ on the value of these special clinics. Lewis in his recent book states that, although they offer excellent opportunity for postgraduate teaching and the follow up of a large number of cases, he doubts whether the best interests of the patient are served. Donald says a special clinic can investigate these patients far better than a busy out-patient department; all the necessary equipment is at hand, more efficient organization is possible, and better facilities are offered for research.

Often on examination, although the outstanding complaint was a vaginal discharge, no discharge could be detected, or not enough for investigation, even though patients were warned not to bathe or douche beforehand. Even on examination at a later date very little discharge could be found and undoubtedly in some of these cases a cancerphobia or syphilophobia existed. This type of individual is reassured and her fears allayed by the thorough examination. Another difficulty was the very high incidence of defaulters (47%). It was a comfort, however, to note this difficulty in other reports.

Great difficulty was encountered in persuading husbands to report for examination. This aspect has been neglected but it is intended to investigate it adequately in future. Many patients did not want to discuss the matter with their husbands. Husbands, who were free from symptoms, were not keen on leaving their work in order to visit the hospital. Another insurmountable difficulty encountered was that a number of the patients were unmarried.

Method of Investigation. A drop of the discharge was examined directly in saline, and a swab taken for culture—obviously water was the only instrumental lubricant used. Since June vaginal and cervical smears have also been taken for examination according to the method described by Papanicalou. It was a source of encouragement to find that many Papanicalou smears were found positive for trichomonads, and sometimes monilia when the direct examination failed to reveal these organisms. The smear technique seems to be more reliable than the direct examination for trichomonad infections. The incidence of trichomoniasis infection is higher in this than in other reports (Table I). In all probability encountered, the cause of which have to be found, and appropriate counter-measures taken.

Trichomonal Infection. The literature on this subject is voluminous and countless procedures have been advocated. Most treatments, even simple douching, will usually afford temporary relief, and may possibly cure the patient. Some patients, apparently cured, abandon treatment, which is one of the reasons for the high rate of recurrence.

Treatment has to be as simple as possible. S. V. C. or Floraquin pessaries were used daily for 8 weeks, the menstrual period included. For the next few months, pessaries were used for a few days after the period, i.e. when relapse tends to occur. In some resistant cases, oestrogynedron was tried with success—a cream containing oestrogen, sulphonamide and lactose in a vehicle which disperses well in the vagina.

### TABLE I. INCIDENCE OF DIFFERENT CAUSES

<table>
<thead>
<tr>
<th>Donald</th>
<th>Ray and Maughan</th>
<th>Groote Schuur</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trichomonas</td>
<td>37.4</td>
<td>39.6</td>
</tr>
<tr>
<td>Monilia</td>
<td>16.2</td>
<td>13.6</td>
</tr>
<tr>
<td>Trichomonas and Monilia</td>
<td>7.7</td>
<td>4.6</td>
</tr>
<tr>
<td>Non-specific</td>
<td>33.5</td>
<td>44.3</td>
</tr>
<tr>
<td>Extras</td>
<td>5.1</td>
<td>2.6</td>
</tr>
</tbody>
</table>

it would have been higher still if we had used this technique from the beginning. Other authorities have reported that smears show a very high percentage of trichomonads. The culture has not been used for recovering trichomonads; however, its use has been stressed by Kupferberg, Sorel and Whittington.

Treatment. Once a firm diagnosis has been made, treatment as a rule follows set patterns. Difficulties are however often

### TABLE II. INCIDENCE OF TRICHOMONAS IN THE MALE

<table>
<thead>
<tr>
<th>Donald</th>
<th>Barnes et al.</th>
<th>Perl et al.</th>
<th>Catterall and Nicol</th>
<th>Cuthbert and Husband</th>
<th>Gardner and Dukes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Husbands examined in 4 of the relapsing cases and no positives found</td>
<td>6 out of 37 patients cured (16%)</td>
<td>38% cured, 67% asymptomatic</td>
<td>100% failure in 20 cases</td>
<td>4 successes and 2 partial successes in 41 cases</td>
<td>54 cases out of 87 cured without Trichone (62%)</td>
</tr>
<tr>
<td>8 husbands examined, 2 positive</td>
<td>33% cured (without treating husband)</td>
<td>9 failures in 10 cases, 1 defaulter</td>
<td>44 patients treated</td>
<td>All positive within 13 days of completion on treatment although half showed clinical improvement</td>
<td></td>
</tr>
<tr>
<td>15.5% of symptomless males</td>
<td>27% only when urine examined. 58% in semen culture.</td>
<td>16% of 926 symptomless recruits</td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>

Good results with this therapy have been claimed by Bricgleb. However, until the method of reinfection is clearly understood, and we have a systemic form of treatment as well, the results will continue to be disappointing. Authorities differ on the role played by the male. Baird states that the treatment of the male up to now has proved of much practical importance, and Donald that examination of the male in relapsing cases did disclose the presence of trichomonas. Table II shows that trichomonad infection in the male is becoming increasingly recognized. We have been unable to examine the males so far, but have advised that the male should use a condom for at least 3 months. Recent work on oral treatment of vaginal discharge with trichomonacide-aminitrozole (Trithrox trichorad) has raised great hopes, but our results like those of others, have been disappointing. Table III shows results obtained at Groote Schuur Hospital and by others elsewhere. There may be a place for its use in the male, and we are investigating this side further. (Table IV)

Caterall and Nicol make a plea that new drugs should not be put on the market and advertised until there has been a really adequate clinical trial. Table V shows the results

### TABLE III. USE OF ORAL TRICHOMONACIDE IN FEMALE.

<table>
<thead>
<tr>
<th>Barnes et al.</th>
<th>Perl et al.</th>
<th>Catterall and Nicol</th>
<th>Cuthbert and Husband</th>
<th>Gardner and Dukes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used with Acijel</td>
<td>Trithrox alone</td>
<td>(a) Trithrox alone</td>
<td>Both male and female treated</td>
<td>44 patients treated</td>
</tr>
<tr>
<td>6 out of 37 patients cured (16%)</td>
<td>38% cured, 67% asymptomatic</td>
<td>(b) Trithrox and Penotrone pessaries</td>
<td>4 successes and 2 partial successes in 41 cases</td>
<td></td>
</tr>
<tr>
<td>100% failure in 20 cases</td>
<td>33% cured (without treating husband)</td>
<td>9 failures in 10 cases, 1 defaulter</td>
<td>All positive within 13 days of completion on treatment although half showed clinical improvement</td>
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<td>44 patients treated</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE IV. USE OF ORAL TRICHOMONACIDE IN MALE

<table>
<thead>
<tr>
<th>Perl et al. 27</th>
<th>26 men treated: (1) 16 cured after 1 course, (2) 2 cured after 2 courses, (3) 10 defaulters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnes et al. 21</td>
<td>8 husbands examined: 2 were positive and successfully treated</td>
</tr>
<tr>
<td>Catterall and Nichol 19</td>
<td>6 males treated and Trichomonas found in the urine of all 6 afterwards</td>
</tr>
<tr>
<td>Groote Schuur Hospital</td>
<td>5 males treated and Trichomonas still found in urine of 3 after the treatment</td>
</tr>
</tbody>
</table>

obtained by Catterall and Nichol with an antibiotic, trichomycin, isolated in Japan by Hosoya et al and stated by them to be effective against trichomonads. 22 Catterall and Nichol do not confirm these claims, either with systemic or local use.

TABLE V. ORAL USE OF TRICHOMYCIN (CATERALL AND NICHOL 19)

| Trichomycin oral | 44 | 0 | 41 | 3 |
| Trichomycin pessaries | 23 | 1 | 17 | 5 |
| Acetarsol pessaries | 23 | 9 | 8 | 6 |

Monilial Infection. Treatment with gentian violet has been replaced by the insertion of Mycostatin pessaries. Up to the present there have not been many reports published on this therapy. Stallworthy 23 reported that he had extremely good results. Jennison and Jones 24 report 47 cases free from infection in 1 week out of 53 cases treated with Mycostatin (88%) as compared with 17 cures out of 36 treated with gentian violet (42%). Of 18 cases not responding to gentian violet, 16 were cured with Mycostatin. The relapse rate after 4 weeks was 46% with gentian violet as compared with 21% with Mycostatin. Jennison and Jones state in a letter that, since their article, they have improved their results by using the pessaries for 14 days. We have found that the pessaries should be used for at least 3 weeks. It has been suggested that drug resistance may develop, 25 but this has not been established.

At Groote Schuur Hospital we treated 70 cases of monilia infection with Mycostatin pessaries. Of these, 44 defaulted but the 26 patients who reported were all cured—and probably most of the defaulters as well, for otherwise the unpleasant pruritis that is associated with monilial infection would have brought them back.

It has been maintained that monilial infection never occurs unless there is at any rate intermittent glycosuria, but this is not so. The use of antibiotics has led to a marked increase of monilial infection, and it has been suggested that it is wiser to give Mycostatin by mouth as well when using broad-spectrum antibiotics, and in pregnant or diabetic patients it is probably wise to do so. Stone and Mersheimer 26 showed in a controlled series that no case developed vaginal moniliasis while receiving the combination, whereas the reverse was obtained when Mycostatin was not included in the therapy.

Non-specific Vaginitis

The so-called non-specific vaginitis comprises a large number of cases. It is defined as a diverse group of vaginal infections which cannot be attributed to any specific pathogenic organism. These cases are associated with mixed bacterial flora. In some of them associated ovarian disturbances are found. In the extreme case we have the so-called atrophic vaginitis; others are secondary to cervical disease, but in the vast majority no specific cause has been found. In 1955 Gardner and Dukes 28 reported the presence of a specific organism, named by them Haemophilus vaginalis, which they thought to be the aetiological agent in the majority of cases of non-specific vaginitis. It was cultured from 127 out of 137 cases. The organism isolated fulfilled Koch's postulates for pathogenicity, i.e. they established the disease in 11 out of 15 volunteers. The organism was also recovered from 45 out of 47 of the husbands in Gardner and Dukes' series. Ray and Maugham 28 also report that this organism was responsible for the majority of their cases. They say, however, that they experienced considerable difficulty in culturing the organism, and that they were unable to duplicate Gardner and Dukes' culture records. We have also experienced great difficulty in culturing this organism. In our 90 cases of 'non-specific' vaginitis there were 8 cases in which the gram stain and wet preparation showed 'clue cells' and large numbers of small negative rods. In 3 of these cases we have isolated on culture an organism which appears to have all the characteristics of Haemophilus vaginalis.

Gardner and Dukes 27 record 29 cures out of 60 cases of haemophilus vaginitis treated with 'triple sulfa cream' (they gave up the tetracycline treatment of these cases because of the development of monilia). They cured 29 out of 30 infected husbands with tetracycline. Ray and Maugham 28 obtained 27 cures (75%) out of 36 cases of haemophilus vaginitis by treating with 'triple sulfa cream'. There were 9 failures and 4 of these they cured with Mysteclin (Mycostatin plus tetracycline) with no development of monilial infection. All the infected husbands they treated with Mysteclin were cured.

Recently new broadspectrum antibacterial chemical compounds have made their appearance. Claims have been made regarding their effectiveness in trichomomas, monilial and haemophilus vaginitis. These claims have not been substantiated in our clinic against trichomomas vaginitis and monilial vaginitis. However, work is proceeding to evaluate their usefulness in the haemophilus cases. Table VI shows that Gardner and Dukes 19 have found Hexetidine (sterisil) of little value in trichomomas and monilial vaginitis. On the other hand, they obtained with it 83% of cures in haemophilus vaginitis, and Ray and Maugham 28 report success with it in 5 out of 6 cases of haemophilus vaginitis.

Our results at Groote Schuur in so-called non-specific vaginitis have so far been disappointing. In 61 cases, after deducting 22 defaulters, 19 have been cured and 20 were not cured when last seen. However, we are now concentrating on these cases and hope in the future to publish a paper on this subject. We have recently also been more successful in culturing the Haemophilus.

CONCLUSION

In this preliminary report, these 3 main causes of disturbing vaginal discharge have been briefly discussed. The more detailed analyses will be left for a later day. It cannot be sufficiently emphasized that to be rid of an ever-present vulval moistness, and the mental anguish associated with an odour that may be emitted by this discharge, is a gift
every patient is most grateful to receive. Simple albeit pro-
longed treatment based upon accurate aetiological assess-
ment almost invariably assures this happy result.

SUMMARY
1. The reasons for starting a vaginal discharge clinic are
discussed, and the advantages and disadvantages as well as
the difficulties encountered.
2. The methods of investigation employed are described,
and the value of the Papanicolaou smear noted.
3. The treatment of the different types of vaginitis is
discussed with particular reference to (a) the value of the new
systemic trichomonacide Trithion, (b) Mycostatin (Nystatin)
in monilial vaginitis, and (c) the treatment of 'non-specific'
vaginitis and the recently described haemophilus vaginitis.
4. Results of treatment are compared with other published
series.

I should like to thank Prof. James T. Louw for his constant
guidance, encouragement and help, Dr. Theo. Sacks and Mr. N. D.
Constantine for their cooperation in the laboratory investigations,
and Sister T. Fox for organizing the clinic so efficiently.

DERMATOLOGY OF THE INFANT*
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Children under 3 comprise 9% of the cases in my private
practice. Infancy, of course, is supposed to end at 2 years,
but skin diseases do not always respect this boundary.
Consequently I have extended it to 3 so as to broaden
the perspective of my survey. Taking 2,000 consecutive White
patients referred to me, 3.5% were under 1 year, 3% between
1 and 2 years, and 2.5% between 2 and 3. Four disease
groups together make up roughly 70% of these cases, viz.
infantile eczema together with infantile seborrhoeic derma-
titis, 42%; papular urticaria, 14%; scabies, 6.5%; and pyo-
dermas, 6.5%

Dermatologists tend to favour with a certain type
of infant patient and, in what follows, this selective emphasis
will be apparent. My own offerings on this subject represent
little more than one man's view of the dermatoses of White
infants seen in consultation in Pretoria. It is hoped that
they will make it simpler for those with other experiences
to assess their observations from other places and popula-
tions within the Union.

ECZEMA

Eczema is the dermatosis of infancy par excellence. In my
cases of eczema in children below the age of 3, only 10% were
between 2 and 3, while 90% were under 2. Most authors
apparently find it easier to classify the cases than I do.
The clinical variations of eczema in infancy are almost as
complicated as in adults. In most cases, one merely has to
decide if the baby has infantile eczema or seborrhoeic derma-
titis, and this can be done by referring to a table of compara-
tive criteria. This is at any rate what one is often led to believe.
Almost everything from 'acidity' (suur) rashes on the cheeks
to severe generalized dermatitis must be brought home to
one of these alternatives. In between these two extremes

* A paper submitted to the South African Medical Congress,
Durban, September 1957.

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