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] Davis[4] has recently tried to correlate his findings that trichomonas infection was

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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[5] 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[6] 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 bath 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 Papanicaloau. It was a source of encouragement to find that many Papanicaloau 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 trichomonas infection is higher in this than in other reports (Table I). In all probability

TABLE I. INCIDENCE OF DIFFERENT CAUSES

	Donald[6]	*Ray and Maughami*[28]	*Groote Schuur*
Trichomonas	37·4	39·6	49·2
Monilia	16·2	13·6	24·5
Trichomonas and Monilia	7·7	—	4·6
Non-specific	33·5	44·2 (Haemophilus)	21·7
Extras	5·1	2·6	—

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,[8] Sorel[9] and Whittington.[13]

Treatment. Once a firm diagnosis has been made, treatment as a rule follows set patterns. Difficulties are however often 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 II. INCIDENCE OF TRICHOMONAS IN THE MALE

Donald[6]	Husbands examined in 4 of the relapsing cases and no positives found
Barnes *et al.*[12] ..	8 husbands examined, 2 positive
Whittington[13] ..	27% of husbands whose wives infected
Coutts *et al.*[14] ..	40% of husbands whose wives infected
Senecca and Ides[15] ..	16% of 926 symptomless recruits
Feo[16]	15·5% of symptomless males
Perl *et al.*[17]	2·7% only when urine examined. 58% in semen culture.

Good results with this therapy have been claimed by Briegleb.[9] 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[10] states that the treatment of the male up to now has not proved of much practical importance, and Donald[6] that examination of the

TABLE III. USE OF ORAL TRICHOMONACIDE IN FEMALE. (TRITHEON AMINITOZOLE TRICHORAD)

Barnes *et al.*[12]	Used with Acijel	6 out of 37 patients cured (16%)
Plentl *et al.*[18]	Tritheon alone	38% cured, 67% asymptomatic
Perl *et al.*[17]	Tritheon with Acijel	33% cured (without treating husband)
Catterall and Nicol[19]	(*a*) Tritheon alone	100% failure in 20 cases
	(*b*) Tritheon and Penotrone pessaries	9 failures in 10 cases, 1 defaulter
Cuthbert and Husband[20]	Both male and female treated	4 successes and 2 partial successes in 41 cases
Gardner and Dukes[21]	44 patients treated	All positive within 13 days of completion on treatment although half showed clinical improvement
Groote Schuur Hospital	54 cases out of 87 cured without Tritheon (62%)	
	29 cases out of 52 cured with Tritheon in addition (56%)	

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 (Tritheon 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[19] 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 IV. USE OF ORAL TRICHOMONACIDE IN MALE

Perl *et al.*[17]	26 men treated: (1) 16 cured after 1 course, (2) 2 cured after 2 courses, (3) 10 defaulters
Barnes et al.[12]	8 husbands examined: 2 were positive and successfully treated
Catterall and Nicol[19] ..	6 males treated and Trichomonas found in the urine of all 6 afterwards
Groote Schuur Hospital	5 males treated and Trichomonas still found in urine of 3 after the treatment

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

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

	No. Treated	*Cures*	*Failures*	*Defaulters*
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[22] 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 trichomonas, monilial and haemophilus vaginitis. These claims have not been substantiated in our clinic against trichomonas vaginitis and monilial vaginitis. However, work is proceeding to evaluate their usefullness in the haemophilus cases. Table VI shows that Gardner and Dukes[19] have found Hexetidine (sterisil) of little value in trichomonas 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.

TABLE VI. HEXETIDINE (STERISIL) IN THE TREATMENT OF VAGINITIS (GARDNER AND DUKES)

Condition	*Patients Treated*	*Cures*	*Failures*	*Cured %*
Haemophilus vaginalis Vaginitis	79	66	13	83·5
Trichomonas Vaginitis	42	0	42	0
Vaginal Monilia ..	34	4	30	11·8

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 prolonged treatment based upon accurate aetiological assessment 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 Papanicaloau 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 Tritheon, (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.

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