

NIFURATEL (MAGMILOR) IN TRICHOMONAL VAGINITIS*

BY

W. FOWLER AND M. HUSSAIN

The General Hospital, Birmingham

Introduced almost a decade ago, Flagyl (Metronidazole) is still the only acceptable systemic therapy available for trichomoniasis. Fortunately, the efficacy of Flagyl has remained at a very high level and there is no evidence that *Trichomonas vaginalis* has developed, or is developing, any resistance to it. However, there has always been the occasional case in which even very large doses of Flagyl fail to eradicate the trichomonad and there is an obvious place for some other form of systemic therapy. Nifuratel, the subject of this report, is claimed to be such a treatment. Marketed under the name of Magmilor this is a derivative of Nitrofurantoin and is said to provide effective systemic and topical therapy for trichomoniasis, vaginal moniliasis, and vulvovaginitis due to certain bacteria, and also to be active in some urinary tract infections. Adverse side-effects are reported to be very rare.

This report is concerned solely with the effect of Magmilor in trichomonal vaginitis, in which condition continental workers have obtained just over 70 per cent. of cures with one course of treatment (Caeira and Dexeus, 1966; Giocoli, Digesu, and Cascella, 1967).

Material and Methods

Patients This clinical trial involved 91 women who had not been treated previously for trichomonal vaginitis. Selection for the trial depended first upon the isolation of *T. vaginalis* in urethral, vaginal, or cervical films, including those for cytology, or in vaginal cultures (*Trichomonas* Oxoid No. 2), and secondly upon the likelihood that the patient would attend for examination on the completion of treatment.

Of these patients, 30 per cent. were teenagers, 31 per cent. were between the ages of 20 and 24 years, and 37 per cent. were more than 24 years of age; 49 (53 per cent.) were single women, and 42 were married, of whom eight

were living apart from their husbands, and one was a widow. Females born in Great Britain accounted for 74 per cent. of the cases, fifteen were from Southern Ireland, seven were West Indians, and one was from India.

No less than 43 patients (47 per cent.) had gonorrhoea as well as trichomonal infestation.

Treatment As laid down by the manufacturers, Magmilor 200 mg. (1 tablet) was given orally three times a day for 7 days plus one Magmilor pessary (250 mg.) nightly for 10 nights.

Follow-up It was intended to examine urethral, vaginal, and cervical films for *T. vaginalis* immediately after treatment had ended and then on at least three further occasions, preferably at weekly intervals; it was hoped that the patients would remain under observation for another 2 months during which time tests for *T. vaginalis* could be carried out if there were any indications that the parasite might have returned.

Controls To provide a background against which the results of Magmilor therapy might be studied the records were examined of 96 patients who had been given Flagyl therapy (200 mg. three times a day for 7 days) out of 100 consecutive cases of trichomonal vaginitis attending in the months immediately preceding the Magmilor trial. Presumably because of attempts at selection, the patients in the Magmilor trial were slightly older and rather fewer were single than in the group which received Flagyl. Of the Flagyl patients, 39 per cent. were teenagers and 34 per cent. over 24 years of age, while 59 per cent. were single women. The racial incidence was very much the same in both groups (British women accounted for 76 per cent. of the females treated with Flagyl), and 46 had gonorrhoea as well as trichomonal vaginitis. The follow-up of the Flagyl patients was similar to that in the Magmilor trial.

Results

Of the 91 patients given Magmilor, eighteen (19.7 per cent.) did not return to the clinic and five delayed their return for 2 or more weeks after they had finished treatment, but 68 patients attended for

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TABLE I
INITIAL RESULTS OF TREATMENT

No. Treated	No. Defaulted	No. Attended Later	No. Examined	Clinical Appearance		
				Cured	Improved	Unchanged
91	18	5	68	37	21	10
Number of Cases Positive				0	2	8

examination at the completion of treatment. The findings in these 68 cases are shown in Table I. In 37 (54 per cent.) there was no evidence of genital infection clinically or microscopically. In twenty-one cases (30 per cent.) there was some improvement in the condition although inflammatory signs were still present; and *T. vaginalis* was isolated from two of them. In the remaining ten cases (14 per cent.) treatment had exerted no beneficial effect and *T. vaginalis* was still present in eight cases.

Subsequent Progress

During the follow-up period *T. vaginalis* was isolated from two of the five patients who had delayed their return to the clinic and in thirteen of the 58 patients with negative test results in Table I. Of these thirteen patients, five were in the "cured" category, seven "improved", and one "unchanged" (Table I). The number of follow-up examinations carried out and the times at which the parasite was recovered are shown in Table II.

TABLE II
END-RESULTS OF MAGMILOR TREATMENT

No. Treated	No. Followed-up	Follow-up Examination (days after treatment—approx.)				
		1-3	8-11	15-18	22-25	25+
91	73					
Number Examined		68	42	31	16	11
Number of Cases Positive		10	4	8	1	2*

* One of these patients had a recurrence of acute vaginitis 7 weeks, and the other patient, 9 weeks after completing treatment.

As is seen above *T. vaginalis* was found immediately after treatment or during the follow-up period in 25 (34.1 per cent.) of the 73 patients who remained under observation. It is unlikely that those

patients who defaulted immediately responded differently to treatment from those who remained under observation, so that at least almost 66 per cent. of the patients in this trial responded favourably to Magmilor. The actual cure rate depends upon whether relapse or re-infection was responsible for the presence of the parasite in the fifteen cases in which it was recovered at the second or subsequent follow-up examination (Table II). This is a difficult question to decide. Generally speaking the longer the interval between treatment and the reappearance of infection, the more likely is this to be due to re-infection. It would seem likely that the two cases in this trial in which vaginitis recurred 7 weeks and 9 weeks after treatment were re-infections, and possible that those in which the parasite reappeared within 2 or 3 weeks after treatment were relapses.

It was our clinical impression that the acute signs of trichomonal vaginitis cleared less quickly and less frequently with Magmilor than with Flagyl and that recurrences were more common after Magmilor than after Flagyl. As seen in Tables III and IV, the findings from the 96 patients treated with Flagyl support our clinical impressions. It will be noted that there were only three recurrences after Flagyl (Table IV) compared with fifteen after Magmilor (Table II). As the male consorts of both Magmilor

TABLE IV
FINAL RESULTS OF FLAGYL TREATMENT

No. Treated	No. Followed-up	Follow-up Examination (days after treatment—approx.)				
		1-3	8-11	15-18	22-25	25+
96	66					
Number Examined		62	42	28	11	8
Number of Cases Positive		2	—	1	1	1*

* *T. vaginalis* was found in this patient two months after treatment.

TABLE III
INITIAL RESULTS OF FLAGYL TREATMENT

No. Treated	No. Defaulted	No. Attended Later	No. Examined	Clinical Appearance		
				Cured	Improved	Unchanged
96	30	4	62	46	15	1
Number of Cases Positive				0	2	0

and Flagyl patients were all treated with Flagyl, the lower recurrence rate in the Flagyl group cannot be attributed to more effective treatment of the male partner and it would seem likely that at least the earlier recurrences after Magmilor therapy were relapses rather than re-infections. This might indicate that the recommended dosage of Magmilor is inadequate and should be increased. (The absence of any adverse reactions in the present trial suggests that an increase in dosage might be possible.)

However, whether or not it is possible to give larger amounts of Magmilor, it has been found in this trial that with the present treatment schedule Magmilor will cure at least 65.7 per cent. of patients. Magmilor may not be quite so spectacular a therapy as Flagyl, but a study of the results obtained by Willcox (1957) with an inert medicament shows clearly that Magmilor provides effective treatment for vaginal trichomoniasis.

Summary and Conclusions

91 females suffering from vaginal trichomoniasis were treated with Magmilor 200 mg. orally three times a day and one Magmilor pessary (250 mg.) nightly for 10 days. 73 patients were followed-up and the cure rate was at least 65.7 per cent. There

were no adverse reactions. It is concluded that Magmilor provides effective therapy for trichomonal vaginitis and it is suggested that better results might be obtained with higher dosage.

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La nifuratel (Magmilor) dans la vaginite à *Trichomonas*

RÉSUMÉ ET CONCLUSIONS

91 femmes atteintes de vaginite à *Trichomonas* ont été traitées avec du Magmilor par voie buccale à la dose de 200 mg. trois fois par jour et un pessaire de Magmilor (250 mg.) chaque soir pendant 10 jours. 73 d'entre elles ont été suivies et le taux de cures avait été d'au moins 65,7 pour cent. Il n'y avait pas eu de réactions toxiques. Il a été conclu que le Magmilor procure une thérapie efficace contre la vaginite à *Trichomonas* et il est suggéré que de meilleurs résultats pourraient être obtenus avec un dosage plus élevé.