

# Treatment of trichomoniasis with a single dose of nimorazole (nitrimidazine)

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In the year 1971, 598 female patients (15.7 per cent. of our total of 3,799 new cases) suffering from trichomonal infection attended the clinic at the Royal Northern Hospital. In the early part of the year, we conducted a trial of nimorazole (formerly known as nitrimidazine), using the manufacturer's recommended dosage of 250 mg. twice daily for 6 days; 134 patients were treated, with a cure rate of 93.3 per cent., but 22.4 per cent. defaulted (Jelinek and Jones, 1971). The majority of our patients come from the lower socio-economic classes and are notoriously unreliable in carrying out the prescribed treatment, being apt to forget to take their tablets, share them or lose them. It was therefore decided to follow this trial with a second trial using a single dose treatment.

## Patients and methods

Initially 195 consecutive female patients suffering from trichomonal vaginitis were treated with eight tablets (2g.) of nimorazole swallowed in the presence of a nurse or doctor.

As the dose of 2 g. was chosen arbitrarily, a further 100 patients were given six tablets (1.5 g.) nimorazole in a single dose. Pregnant women were excluded. The marital state was not analysed as the declared state often bore no relation to the reality.

The ages of the 295 patients ranged from 13 to 60 years (Table I). All the patients were given contact slips for their male contacts. About 18 per cent. of this series had had trichomoniasis on previous occasions, the maximum being six times.

Gonorrhoea was found in 74 (25.1 per cent.) of the 295 patients and monilia in 67 (22.7 per cent.);

TABLE I *Age distribution of 295 patients treated with nimorazole*

<i>Age group (yrs)</i>	10-19	20-29	30-39	40	<i>Total</i>
<i>No. of patients</i>	108	133	41	13	295

other conditions included primary syphilis (1), warts (3), and herpes (1).

The patients were re-examined approximately 1 week after treatment, and then at monthly intervals for 3 months.

## Diagnosis

The diagnosis of trichomoniasis was based on finding live motile trichomonads in a specimen taken from the vagina and suspended in isotonic saline. All slides were examined within 2 minutes of the examination of the patient by the doctor in charge. Cultures are not carried out as a routine procedure at the Royal Northern, and there is some doubt whether some culture media are more reliable than simple microscopy (Woodcock, 1972).

The test of cure in follow-up examinations was carried out by the same method.

## Results (Table II, opposite)

### 2 G. DOSE

Of the 195 patients taking 2 g. (8 tablets), 36 (18.4 per cent.) defaulted; of the 159 patients who were followed up, 149 (93.7 per cent.) were free from trichomonal infection at their first and subsequent examinations. Surveillance was as shown in Table II, 86 (57.1 per cent.) being seen for over 2 months.

Of the ten failures (6.3 per cent.), seven were noted at the first visit, and only three later in the surveillance period after an initial clear test.

TABLE II Results of treatment and duration of follow-up in two series of patients

Dosage (g.)	No. treated	No. followed	Results				Duration of follow-up (mths) of those cured		
			Failed		Cured		Up to 1	Up to 2	Over 2
			No.	Per cent.	No.	Per cent.			
2	195	159	10	6.3	149	93.7	46	17	86
1.5	100	81	21	25.9	60	74.1	15	9	36

### 1.5 G. DOSE

Of the 100 patients taking 1.5 g. (6 tablets), nineteen (19 per cent.) defaulted; of the 81 who were followed up, sixty (74.1 per cent.) were free from infection at their first and subsequent examinations. Surveillance was as shown in Table II, 36 (60 per cent.) being seen for over 2 months.

Of the 21 failures (25.9 per cent.), seventeen were noted at the first visit, and only four later in the surveillance period.

In several instances, patients were re-examined 2 or 3 days after treatment. The patients claimed that their symptoms had been relieved within 24 hours and no trichomonads were found although some inflammation was still present.

### Side-effects

Three patients in the first series complained of side-effects. One suffered severe dizziness and vomiting half an hour after taking the tablets, and dizziness and nausea persisted for 12 hours. She had also been given 1.2 m.u. procaine penicillin intramuscularly, but subsequent penicillin produced no further reaction. Her trichomoniasis, however, was cured.

The other two complained of slight nausea for a few hours but both were cured.

There were no side-effects in any of the patients in the second series.

### Discussion

Because of the unreliability of the patients, their erratic attendances, and their promiscuity, the results are difficult to interpret. Only 38 male contacts were known to receive treatment (12.9 per cent.), although the number was probably higher than this. It is likely that some of the secondary failures were in fact re-infections.

The cure rate in the first series was high (93.7 per cent.), and compared well with the 86.3 per cent.

cure obtained in the similar study using 2 g. metronidazole in a single dose (Woodcock, 1972). Perhaps this is because the patients received the whole prescribed dose under supervision and so avoided the errors which may occur in a longer course of treatment. In contrast to Woodcock's series, the failure rate was no higher in those with concomitant gonorrhoea.

The initial high serum level obtained, though lasting only for a few hours, is probably sufficient to kill the organism. According to data supplied by Carlo Erba (U.K.) Ltd., the serum level after 2 g. nimorazole reaches 32 µg./ml. after 2 hours and falls to 1.9 µg./ml. in 24 hours in a subject weighing 62 kg.

The incidence of side-effects was low (1 per cent.). No attempt was made to give the tablets after solid food, but the patients were given fruit squash to drink with the tablets.

The success rate of only 74.1 per cent. for those given 1.5 g. nimorazole is low, and this dosage cannot therefore be recommended.

The 2 g. single dose of nimorazole was not used for treating male contacts, but this might well be the treatment of choice for them. One wonders how many symptomless male carriers remember to take a full week's course of tablets.

### Summary

Each of 195 women with trichomonal vaginitis was treated with 2 g. nimorazole (8 tablets) in a single dose. Among the 159 who attended for follow-up the cure rate was 93.7 per cent.

Each of another 100 women was treated with 1.5 g. nimorazole (6 tablets) in a single dose. Among the 81 who attended for follow-up the cure rate was 74.1 per cent.

It is concluded that a single dose of 2 g. nimorazole is an effective treatment for trichomonal vaginitis.

The cost of this form of treatment is less than the standard treatment with either nimorazole or metronidazole.

I should like to thank Carlo Erba (U.K.) Ltd. for their assistance and for the supply of nimorazole (Naxogin) used in the trial. I also wish to thank the staff of the Royal Northern Hospital Special Clinic, medical, nursing, and secretarial, for all their invaluable help.

### References

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### Traitement de la trichomonase par une dose unique de nimorazole (nitrimidazine)

#### SOMMAIRE

Chaqu'une d'une série de 195 cas de vaginite à trichomonas fut traitée avec 2g de nimorazole (8 comprimés) en dose unique. Parmi les malades qui se présentèrent pour contrôle, le taux de guérison fut de 93,7 pour cent.

Chaqu'une d'une deuxième série de 100 cas fut traitée par 1,5 g de Nimorazole (6 comprimés) en dose unique. Parmi les 81 cas qui se présentèrent pour contrôle, le taux de guérison fut de 74,1 pour cent.

On en conclut qu'une dose unique de 2 g de Nimorazole constitue un traitement efficace de la vaginite à trichomonas. Le coût de cette forme de traitement est inférieur à celui du traitement habituel avec le nimorazole aussi bien qu'avec le métronidazole.