

# EVALUATION OF "FLAGYL" THERAPY IN THE TREATMENT OF NON-SPECIFIC VAGINOSIS

by

SHAIL DUBE

SUSHEELA KHANNA

and

SHIV PRAKASH SINGH

## Introduction

Non-specific vaginosis (Gardnerella associated vaginitis) is a very common condition, albeit a mild one. The syndrome of vaginitis due to trichomonas and candida albicans are well documented. When neither of these pathogens can be isolated, the vaginitis is called "non-specific vaginosis".

The clinical spectrum of this infection varies from total lack of symptoms to profuse vaginal discharge with obvious odour. The smell is produced by the amines formed by anaerobic bacterial action. It has been shown that there is an association between anaerobes and non-specific vaginitis due to *G. vaginalis*. A theory of symbiosis has been advanced and supported by workers in this field.

The non-specific vaginosis may be sexually transmitted and may be a cause of marital discord which may warrant serious attention. Rotherham and Schick (1969) observed the implication of *G. vaginalis* in post abortion fever and septicaemia in new born infants. The significance of the association of *G. vaginalis* with obstetric complications needs further study.

A variety of treatment has been suggested in the past (Pheifer *et al*, 1978). Sulphonamide cream, tetracyclines, ampicillin and metronidazole have been tried. The present study is carried out to evaluate the role of metronidazole ("FLAGYL") therapy in the treatment of non-specific vaginosis and to compare the efficacy with commonly used antibiotic therapy.

## Patients and Methods

The study was carried out in the Department of Obstetrics and Gynaecology, Institute of Medical Sciences, Banaras Hindu University, from December 1981 to April 1984. Two thousand and three hundred women of reproductive age group attending the out-patient department for vaginal discharge were screened for the study. Patients having trichomonal, monilal or gonococcal infection and cases of cervical pathology were excluded from the series.

## The Diagnostic Criteria

The diagnosis was made on clinical and laboratory findings.

### (a) Clinical Features :

1. Thin homogeneous, off white or greyish, adherent to vaginal wall associated with fishy smell was the characteristic of the discharge. In

From: Institute of Medical Sciences, Banaras Hindu University, Varanasi.

Accepted for publication on 21-3-85.

some cases there was froth in the discharge and it was associated with pruritus.

2. Addition of a drop of 10 per cent KOH to the vaginal discharge on a glass slide enhanced the fishy smell.

of saline, cover slipped and examined under microscope was characteristic. The vaginal epithelial cells have stippled or granulated appearance in nonspecific vaginosis. Gardner & Duke (1955) coined the name "clue cells" to these.

#### (b) Laboratory Diagnosis :

1. *pH Estimation* : The normal vagina has a pH of less than 4.5. A pH of 5.0 or more in a woman with functioning ovaries and with no trichomonads on wet mount is indicative of bacterial vaginitis, particularly with *G. vaginalis*. The pH of vaginal fluid was tested by transferring the vaginal fluid with a glass rod on pH paper. After matching the colour the reading was taken from the coloured chart.

2. *Microscopic findings* : A gram stained smear of the discharge revealed large number of small pleomorphic, Gram-negative or Gram-variable bacilli or coccobacilli often vastly outnumbering other bacteria present. Pus cells are rare and lactobacilli are absent from such specimens. The appearance of a sample of the discharge, when mixed with a drop

#### Drug Therapy

The patients were divided into three treatment groups :

*Group A* (51 cases) : Flagyl tablets 400 mg, three times daily.

*Group B* (50 cases) : Oral ampicillin 500 mg, 6 hourly for 7 days.

*Group C* (50 cases) : Oral doxycycline 100 mg — twice daily for 7 days.

The patients were asked to report for follow-up examination on the 8th day.

#### Criteria for Cure

Symptomatic cure along with the absence of clinical and microscopic evidence of non-specific vaginitis was considered as cure.

#### Results

On screening 2,300 cases having discharge, 151 patients fulfilled the diagnostic criteria of non-specific vaginosis (7%). The three groups of patients were matched for age, parity and number.

TABLE I  
Response of Drug Therapy in the Various Treatment Groups

Group of therapy	Cured		Relieved		Unaltered		Total number of cases
	No.	%	No.	%	No.	%	
A	42	82.3	9	17.6	00	—	51
B	16	32.0	7	14.0	27	54.0	50
C	19	38.0	38	6.0	28	56.0	50



### Discussion

The clinical entity that Gardner 1980 and Dukes (1955) first described is now on accepted condition. They attempted to confirm the pathogenic role of *G. vaginalis* in the aetiology of nonspecific vaginitis.

Pheifer *et al* (1978) investigated the treatment of non-specific vaginitis with ampicillin, tetracycline and metronidazole. In their study ampicillin and tetracycline were found to be ineffective against *G. vaginalis* although Lee and Schmale (1973) had shown better results.

Metronidazole therapy was found to be most effective in a dose of 500 mg twice daily for 7 days by Pheifer *et al* (1978). Balsdan *et al* (1980) in a double blind trial using metronidazole and placebo therapy confirmed the efficacy of the former.

The results of the present study confirm once again the effectiveness of metronidazole as compared to ampicillin or doxycycline (Table I). It has been shown that there is an association between anaerobes and non-specific vaginitis, as well as *G. vaginalis*. The report of a significant carriage rate of *G. vaginalis* in asymptomatic women (Dun Kelberg, *et al*, 1962) has been confirmed by authors (Balsden *et al*, 1980) but this does not deny its pathogenic potential.

Non-specific vaginosis is a common gynaecological condition, which may have implications resulting in sexual discord. This infection may also be responsible for a significant perinatal conditions, i.e. post abortion fever and septicaemia in new born (Retherhan & Schick, 1969; Platt, 1971; Monif & Beer, 1974). A urinary carriage rate of *G. vaginalis* is reported to be 16% using suprapubic aspirations (McFadyen &

EyKgn, 1968). Considering the pathogenic potential the treatment is imperative even in asymptomatic cases.

The cure rate with metronidazole therapy in this study has been similar to Pheifer *et al* (81%) though their was 100% relief from symptoms. However, perhaps results would have been better if the male partners were also treated. Metronidazole therapy is an accepted form of treatment in non-specific vaginitis. The role of metronidazole therapy is doubly significant as non-specific vaginitis is always associated with anaerobic infection.

### Acknowledgement

We acknowledge our grateful thanks to May & Baker (India) Ltd. for providing Flagyl tablets and rendering all help in completing this study.

### References

1. Balsdon, M. J., Taylor, G. D., Pead, L., Maskell, R.: *Lancet*, **1**: 501, 1980
2. Dunkelberg, W. E. (1977): *Sexually transmitted Disease*, **4**: 69, 1977.
3. Gardner, H. L.: *Am. J. Obstet. Gynec.*, **137**: 385, 1980.
4. Dukes, C. D.: *Am. J. Obstet. Gynec.*, **69**: 962, 1958.
5. Lee, L. and Schmale, J. D.: *Am. J. Obstet.*, **115**: 721, 1973.
6. McFadyen, I. R. and Eykyn, S. J.:
7. Monif, G. R. G., Baer, H.: *Am. J. Obstet. Gynec.*, **120**: 1041, 1974.
8. Pheifer, T. A., Forsyth, P. S., Durfee, M. A., Pallock, H. M., Holmes, K. K.: *New Engl. J. of Medicine*, **298**: 1429, 1978.
9. Platt, M. S.: *Clinical Paediatrics*, **10**: 513, 1947.
10. Rotheran, F. B., Schick, S. F.: *Am. J. Med.*, **46**: 80, 1969.