

Metronidazole for Bacterial Vaginosis - A Comparison Between Vaginal Gel & Oral Therapy

N IQBAL N SHAMI S ANWAR S ASIF

Department of Obstetrics & Gynaecology Department, Ghurki Trust Teaching Hospital, Lahore
Correspondence to Dr. Naveed Iqbal, Senior Registrar

Aim: To compare the efficacy of 0.75% metronidazole vaginal gel with oral metronidazole for the treatment of bacterial vaginosis. **Study Design and setting:** Comparative study, conducted in the Department of Obstetrics & Gynaecology at Ghurki Trust Teaching Hospital attached with Lahore Medical & Dental College, Lahore. **Patients & methods:** The total number of patients included were 290. They were divided into two groups, by random selection. Group A (150 patients) and Group B (140 patients). **Results:** 150 patients received metronidazole vaginal gel for 5 days. 98 (85%) patients were free of signs of infection. 11 (9.5%) patients showed partial response and the dose was repeated, while 6 (5.2%) patients showed no response to treatment. 140 patients received metronidazole 400 mg x BD orally for 5 days. In which 80 (77%) patients were free of discharge while 14 (13%) patients and 10 (9.6%) patients showed partial or no response respectively and it was mainly because of gastro-intestinal complaints. **Conclusion:** Vaginal metronidazole is effective for the treatment of bacterial vaginosis and is associated with better compliance and less side effects as compared to oral metronidazole.

Key words: Bacterial Vaginosis, Metronidazole

Bacterial vaginosis is a condition characterized by replacement of normally dominant lactobacilli by an overgrowth of anaerobic commensals in the vagina.

It is the commonest cause of abnormal vaginal discharge in the women of reproductive age group.¹ Bacterial vaginosis is a polymicrobial condition caused by proliferation of Gardnerella Vaginalis, Peptostreptococcus, Mycoplasma Hominis and Mobiluncus species. They produce volatile amines such as trimethylamine and putrescine that give rise to a fishy smell. Rise in pH is crucial to allowing these organisms to overcome inhibitors such as hydrogen peroxide which is produced by many lactobacillus species.

Although bacterial vaginosis is more common in sexually active women, it is also found in virgins, in IUCD users and other barrier methods of contraception.² Symptoms often develop following menstruation or sexual intercourse.

The clinical features of bacterial vaginosis are thin grey or white homogenous discharge, associated with characteristic offensive fishy odour. It is seldom associated with mucosal inflammation or with irritation. Approximately 50% of women with bacterial vaginosis are asymptomatic.³

Bacterial vaginosis has serious sequelae in women undergoing surgery and in pregnancy. It is strongly associated with second trimester miscarriages, preterm labour, pre PROM (Premature Rupture of Membrane), and postpartum endometritis.⁴

Diagnosis

Clinical diagnosis of bacterial vaginosis can usually be confirmed by simple tests on vaginal discharge, based on Amsell's criteria by finding 3 out of 4 of the following:-

1. Homogenous white or grey vaginal discharge
2. PH > 4.5

3. Whiff test - Fishy smell of volatile amines after adding drop of KOH (Potassium Hydroxide)
4. Clue cells on microscopy - Epithelial cells coated by bacterial

Bacterial vaginosis is treated with antibacterial drugs administered by oral or vaginal route. Five days course of metronidazole 400 mg x twice daily is used most commonly. A single 2 gm dose is nearly as effective.⁵ The oral administration of metronidazole is associated with nausea, vomiting and metallic taste in the mouth. Topical or oral clindamycin is also effective. Whatever treatment, there is 30% recurrence following next menstrual cycle. Alternatively vaginal route can be used for administration of metronidazole i.e. 0.75 mg metronidazole vaginal gel for five days.

In case of recurrence, the male partner should be screened for sexually transmitted disease.

Objectives

The objective of the study was to compare the efficacy of 0.75 metronidazole vaginal gel for five days with oral metronidazole 400 mg BD for five days for the treatment of bacterial vaginosis.

Patients & methods

Setting: This study was carried out in the Department of Obstetrics & Gynaecology at Ghurki Trust Teaching Hospital/ Lahore Medical & Dental College, Lahore during the period of one year from 1st January 2006 to 31st December 2006.

A total number of 290 patients with bacterial vaginosis were included in the study. After taking detailed history, regarding color, amount and odour of discharge, speculum examination was carried out to find out

homogenous white vaginal discharge. Wet mount test was performed to find the presence or absence of clue cells.

Patients were put into two groups. Random selection was done. Group A had 150 patients, which were treated with vaginal gel daily for 5 days and 140 patients were placed in Group B, who were treated by oral metronidazole 400 mg x BD for 5 days.

Information was collected on the performas and effects and side effects of oral versus vaginal metronidazole were determined by follow-up of patients. Those were measured in terms of patient's satisfaction and clinical evidence of the disease.

Results

The results of two different treatments for bacterial vaginosis formed of 290 patients were as follows

	Group A	Group B
No. of patients	150	140
Treatment given	Vaginal metronidazole	Oral metronidazole
Dosage	0.75% vaginal gel x OD for 5 days	400mg tab x BD for 5 days
1 st Follow up visit	115 (76.6%)	104 (74%)
Complete response	98 (85%)	80 (77%)
Partial response	11 (9.5%)	14 (13%)
No response	06 (5.2%)	10 (9.6%)
Lost to follow up	35 (23%)	36 (25%)

In group A, 150 patients were given vaginal gel 0.75% once daily for 5 days. 115 patients came for follow up visits and 98 patients (i.e. 85%) were found free of discharge and 11 patients showed partial response and were given the second dose of vaginal gel. While 6 patients showed no response and those were reevaluated for other causes of vaginal discharge. In this group, most of the patients had complained of feeling of wetness. They were counseled and did not discontinue treatment.

In group B, 140 patients were given oral metronidazole 400 mg twice daily for five days. In this group 36 patients were lost to follow up. Among the remaining patients only 80 (77%) were free of discharge. A significant number of patients having low compliance because of metallic taste and other gastro-intestinal side effects which was not found in group treated by vaginal gel. These patients had to switch over to local treatment.

Discussion

Vaginal discharge is responsible for a large proportion of gynaecological complaints. It may be physiological or pathological. Bacterial vaginosis is common pathological

discharge affecting 10-20% of women in reproductive age group¹.

Alkalinization of vagina because of intercourse, douches or in pregnancy when candidial infection is present, play a significant role in the development of bacterial vaginosis. Treatment of bacterial vaginosis should inhibit anaerobes but not lactobacilli. Metronidazole is active against anaerobes but poor against lactobacilli and is the drug of choice for the treatment of bacterial vaginosis⁶.

Though the difference in results is not significant⁷, however, it is evident that oral metronidazole is associated with more side effects like metallic taste in the mouth. Nausea and vomiting which is at times very distressing. Patients using vaginal gel do not experience these.

Whatever the mode of treatment used, there is a 30% recurrence rate following the next menstrual cycle. Treatment of male partner does not reduce the recurrence of bacterial vaginosis. However, the temporary use of condoms may be helpful to avoid semen in the vagina, which increases the pH of vagina and precipitate recurrence².

Conclusion

The efficacy of 0.75% metronidazole vaginal gel for 5 days in treating bacterial vaginosis was similar to that of oral metronidazole treatment and was associated with fewer gastro-intestinal complaints and better compliance among patients.

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