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

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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. 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, 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.

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.

**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
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 performances 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:

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

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. It 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 group.

Alkalization 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 vaginosis.

Though the difference in results is not significant, 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 recurrence.

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.

References

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