ORIGINAL ARTICLE

Comparison of Ofloxacin & Ornidazole with Probiotic versus Doxycycline & Metronidazole for the Outpatient Treatment of Pelvic Inflammatory Disease

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Abstract

The aim of the study was to compare the efficacy and cost effectiveness of ofloxacin, ornidazole, serratiopeptidase and Saccharomyces Boulardii combination with traditional doxycycline and metronidazole combination with serratiopeptidase in the outpatient management of pelvic inflammatory disease. A total of one hundred and ninety three women presenting with symptoms of pelvic inflammatory disease (PID) confirmed to be a case of PID on clinical examination were randomized to one of the two treatments. No investigations were performed to cut the cost and to avoid loss of follow up. A total of 98 women (Group I) were prescribed ofloxacin (400mg), ornidazole (500mg), Serratiopeptidase (10mg), Lactic acid bacillus 60 million spores and Saccharomyces Boulardii 2 million spores once a day for 10 days while a total of ninety five women (group II) were given a 10 day course of doxycycline (100 mg BD) with metronidazole (400mg TDS) along with 10mg of serratiopeptidase once daily. All women were seen after 2 weeks for relief of symptoms and possible side effects. The results were then analyzed. It was found that although the efficacy of both drug regimens was similar. The incidence of gastrointestinal side-effects mainly were less in group I. This was probably due to the addition of probiotic Saccharomyces Boulardii and lactic acid bacillus. The once daily administration led to better compliance in the first group.

Key Words

Pelvic inflammatory disease, Syndromic approach, Combination antimicrobial kit

Introduction

Pelvic inflammatory disease (PID) is a polymicrobial infection of upper genital tract (usually fallopian tubes).It is a serious infectious disease of sexually active women with sequelae such as infertility and ectopic pregnancy (1, 2). It is most commonly caused by Neisseria gonorrhoea, Chlamydia trachomatis and other aerobic and anaerobic pathogens (3, 4). Most patients of PID are treated as outpatients with hospitalization reserved for sick patients or those with complications like diffuse peritonitis or pelvic abscess (5). In view of multiplicity of pathogens combined with the difficulty in obtaining cultures from upper genital tract sites, centre for disease control (CDC) has issued guidelines for treatment of PID consisting of combination therapy to cover multiple genital tract pathogens (6). Current CDC guidelines for outpatient therapy consist of a cephalosporin with efficacy against N.gonorrhoea and an antichlamydial agent such as doxycycline.Syndromic approach for treatment of PID involves administration of drugs effective against all\common pathogens responsible for PID on an empirical basis

Traditionally doxycycline and metronidazole are used as outpatient therapy for PID in India. Although effective but side effects especially gastrointestinal side effects

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are common. Ofloxacin alone or with tinidazole or ornidazole has recently been used in the outpatient treatment of PID with good results. The purpose of the present study is to compare the efficacy of ofloxacin, ornidazole with probiotic Saccharomyces Boulardii and lactic acid bacillus (to decrease GI side effects) with the traditional doxycycline and metronidazole as outpatient syndromic management of PID.

Material and Methods

Ethical clearance from the ethical committee of the hospital was sought. A total of 232 women attending of Gynecology outpatient department of the hospital presenting with symptoms and signs of PID like abnormal vaginal discharge, pruritus vulvae with or without vaginal pain and lower abdominal pain over a period of 6 months (October 2005- march 2006) were found eligible for this prospective randomized controlled trial. Nineteen women were excluded from the study due to obvious cervical or vaginal pathologies and 13 women were excluded because they had a past history of pelvic inflammatory disease or sexually transmitted disease while 7 patients did not agree to participate in the trial. An informed consent was obtained from the 193 women that were willing to participate in the study. These women were randomized by a computer generated random number generator into either of the two study groups. A detailed history of type and color of discharge. pruritis vulvae, any vaginal pain, dysparunia, lower abdominal pain or any other complaint was taken from all women. Per speculum examination was performed to look for the type of discharge, its consistency, color, smell , any hyperemic area on vulva and vagina, condition of cervix and vagina .Size and consistency of uterus and any tenderness or masses in the fornices were examined on a per vaginum examination. No investigations were performed to cut the cost and to avoid loss of patients on follow-up. The women in group1 (n=98) received a combination treatment of ofloxacin (400mg)/ornidazole (500mg)/ Saccharomyces Boulardii (2 million spores) /Lactic acid bacillus (60 million spores)/Serratiopeptidase (10mg) once a day for a total of 10 days. Group II consisted of 95 women who received treatment with standard doxycycline (100 mg twice daily) with metronidazole (400 mg three times a day) along with 10mg of serratiopeptidase once daily for a total of 10 days. Partners of all the women were given a combination of Azithromycin (1g) and secnidazole (2g) as a single dose.

All women were followed up and reassessed after two weeks of initiation of treatment for symptomatic relief and improvement on vaginal examination findings. Side effects, if any, were noted in both the groups. The improvement in symptoms and side effects were compared and statistical analysis was performed in both the groups.

Results

The characteristics of women in the 2 groups are shown in Table I. There was no significant difference in the range and mean of age, parity, socio-economic status (SES) and condom usage in the two groups. The presenting symptoms and signs of the women in the two groups are shown in Table 2. The most common symptoms were vaginal discharge present in 89.8% and 94.7% patients in group I and II respectively. Lower abdominal pain was seen in86.7% and 75.7% patients respectively in the two groups. The incidence of cervical motion tenderness and adnexal fullness was also similar in the two groups. There was no significant difference in the symptoms and signs in the two groups.

Table 1: showing characteristics of women

Group	I N=98	II N=95
Age Mean(years)	30	30.5
Range	22-40	23-38
Parity Mean	3	3.5
Range	1-5	1-7
SES Low	54	41
Middle	32	40
High	12	14
Condom usage	34	32

Table 2 showing symptoms and signs in the 2 groups

	I		II	
	n	n%	n	n%
Vaginal discharge	88	89.8%	90	94.7%
Lower abdomen pain	85	86.7%	72	75.7%
Cervical motion/ adnexal tenderness	82	83.6%	85	89.5%
Adnexal mass/fullness	63	64.2%	57	60%
Symptoms in partner	45	45.9%	46	48.4%

The improvement rate and side effects of regimens are shown in Table 3. The symptomatic and clinical improvement was almost similar in the two groups. However, side effects were less common in group I using ofloxacin.

Table 3: Showing response to therapy

	Group 1		Group II		P value
	n	n%	n	n%	
Symptomatic improvement	82	83.6	83	87.3	.21
Nausea	28	28.5	38	40	.07
Vomiting	3	3	3	31.5	.32
Allergy	2	2	2	2.1	.8
Metallic taste	33	33.6	43	45.2	.09
Cost	Rs.140 ($3.00)		Rs.80 ($2.00)		

Metallic taste was seen in 33.6% patients in group I and in 45.2% patients in group II. Nausea was seen in 28.5% patients in group I in contrast to 40 % patients in group II. There was no difference in incidence of vomiting, diarrhoea and allergy in the two groups. However the less frequent dosing of drugs in group I led to a better patient compliance. The cost of ofloxacin & ornidazole was higher in group I (approximately $3.00) than the treatment cost in group II ($2.00).

Discussion

The general term PID has been used to describe infection of the uterus and fallopian tubes due to ascending infection with patient presenting with history of abnormal vaginal discharge, fever and adnexal tenderness (1-4). The traditional diagnosis is by microbiological studies on cervical smears or by diagnostic laparoscopy (5-7). Although scientific, this approach has the disadvantage of being expensive in terms of diagnosis and laboratory infrastructure maintenance. It also delays the diagnosis and treatment which is a problem in developing countries as many patients do not come for follow up(8). As most patients of PID and STDs live in developing nations especially Africa and Asia, where facilities for diagnosis are either not available at a health center or dispensary level or even if available, they are not often validated for quality controls.

World Health Organization (WHO) has developed and recommended syndromic approach for management of such cases which is particularly suited for developing nations like India (9). The syndromic approach is based on the identification of a relatively constant combination of symptom and signs of PID and STD depending on knowledge of the most common causative organism of these syndromes and their antimicrobial susceptibility(8). Syndromic approach has the advantage of expedited care, treatment at first visit, cutting of cost by avoiding expensive laboratory tests, better patient compliance and satisfaction and no risk of loss of follow up before starting the treatment. This is the reason of its re-acceptance in developed countries. The main disadvantage of this regimen is the cost of over diagnosis, over treatment and potential for developing antibiotic resistance.

The cost effectiveness of the syndromic approach has been well confirmed by various studies(1,2,8,10). Various combination antimicrobial regimens like cefoxitin and doxycycline or gentamycin and clindamycin have been compared with ofloxacin(1,2). For better patient compliance combination of azithromycin, secnidazole and fluconazole as a one day therapy was found to be equally effective as a combination of ciprofloxacin and tinidazole for a week or doxycycline and metronidazole for a week(11). The use of combination kit of azithromycin, secnidazole and fluconazole was found to be useful in treatment of unexplained infertility on empirical basis confirming that subclinical infection plays a role in unexplained infertility(12).

In the present perspective study, we compared the efficacy of ofloxacin (400mg) with ornidazole (500mg) with Saccharomyces once a day for 10 days with a 10 day course of doxycycline(100mg twice daily) and metronidazole (400mg thrice a day). The partners of all women were given a combination kit of azithromycin and secnidazole to eliminate risk of re-infection. Both the regimes were found to be equally effective with 83.6% vs. 87.3% symptomatic relief rate. However, addition of probiotic (Saccharomyces Boulardii and lactic acid bacillus) helped in better patient tolerance of medicine as presence of nausea was significantly lower (28.5%) in group I than in group II (40%). Also incidence of metallic taste was also less in group I (33.6%) than group II (43.2%). Less frequent dosing of drugs in group I resulted in a better patient compliance.

To conclude syndromic approach using a combination of ofloxacin (400 mg) with ornidazole (500mg) appears

to be an efficient and cost effective modality for syndromic management of PID. The results are comparable to traditional treatment with doxycycline and metronidazole combination but with the advantage that gastrointestinal side effects like nausea and metallic taste are less, possibly due to addition of a probiotic.

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