

EFFECT OF SWD IN THE MANAGEMENT OF PELVIC INFLAMMATORY DISEASE (PID)

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Abstract

Pelvic inflammatory disease (PID) is one of the most frequent causes of pelvic pain which causes suffering of female patients during their reproductive period. PID causes major medical, social and economic problems. Long term sequelae like ectopic pregnancy, infertility are common and their management is expensive. Medical treatment of PID should be immediate because sequelae are more frequent if the treatment is delayed or inadequate. The large majority of PID patients can be managed satisfactorily with conservative method of treatment which consists of rest for a sufficient length of time, drug for relief of pain, antibiotic, mild to moderate amount of exercise and Short Wave Diathermy (SWD). In this experimental study a total 70 patients aged between 18 years to 40 years of chronic PID were included from September 2007 to February 2008 in the Department of Physical Medicine & Rehabilitation, DMCH, Dhaka. Patients were randomly divided into two groups, experimental group (group-A) were treated with antibiotic, exercises, Short Wave Diathermy (SWD), Activities of daily living instruction (ADL) and control group (group-B) underwent antibiotic, exercises, ADL. Clinical improvements were observed throughout the whole treatment period in both groups. The differences of improvement between the groups were not observed up to 11 days but the significant difference of improvement was observed on day 14 and also at day 60. Therefore, in PID use of SWD, as adjunctive therapy along with conventional management is effective.

Keywords: Pelvic inflammatory disease (PID), Short Wave Diathermy (SWD), Efficacy.

J Dhaka Med Coll. 2011; 20(2) : 178-182.

Introduction

Pelvic inflammatory disease (PID) is one of the most frequent causes of pelvic pain which causes suffering of female patients during their reproductive period. As a lady of 3rd world country women' are mostly illiterate, communication facilities are very poor, health facilities are not easily available and costly, so people are not aware of their health problems. Consequently these cases remain undiagnosed and untreated for years together. PID is an upper genital tract infection predominantly involving the endometrium and fallopian tubes.² Many cases are silent or subclinical. The disease burden of PID in developing countries remains enormous.¹ PID causes major medical, social and economic problems. Long term sequelae like ectopic pregnancy, infertility are common and their management is expensive. Medical treatment of PID should be immediate because sequelae are more frequent if the treatment is

delayed or inadequate.² There are many risk factors of PID. The large majority of patients can be managed satisfactorily with conservative method of treatment which consists of rest for a sufficient length of time, drug for relief of pain, antibiotic, mild to moderate amount of exercise and Short Wave Diathermy (SWD). SWD may be defined as the current that alternate with a very high frequency of oscillations of a million or more per second. Heat can be produced inside the tissues, which is the principal physical effect of high frequency current. The main physiological effect of diathermy is due to rising of the temperature along the course of its passage.⁶ Pelvic inflammatory disease presents a serious problem for the practicing physician and the radiologist who is called to determine the origin and extent of the inflammatory process. Pelvic infection may mimic clinically other inflammatory process.³ In our country there are many PID patients who do not respond

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to antibiotic only. There are some literatures in relation to PID. In those studies PID was treated with antibiotic, exercise and Short Wave Diathermy. But it is not scientifically examined. So I have tried to observe the effect of SWD on PID. SWD is one of the indications of PID treatment in many books ^{4,5,6} With all possible searches, a few studies on the effect of SWD in the management of PID were available. In this study, an attempt has been made to observe the effectiveness of Short Wave Diathermy on the management of PID and to evaluate the effectiveness of treatment by SWD to a group of people having PID and compare the result with a similar group without having any treatment with SWD and also to see the demographic pattern, risk factors and clinical pattern of PID patients.

Materials and Methods:

This randomized experimental study was carried out from September 2007 to February 2008 in the Department of Physical Medicine & Rehabilitation, Dhaka Medical College Hospital, Dhaka. During this period total 70 patients aged between 18 years to 40 years of chronic PID were included in the study. Patients were randomly divided into two groups, experimental group (group-A) were treated with antibiotic, exercises, Short Wave Diathermy (SWD), Activities of daily living instruction (ADL) and control group (group-B) underwent antibiotic, exercises, ADL. Levofloxacin, 500mg orally once daily group for 14 days with Metronidazole 500 mg orally twice a day for 14 days were given to all patients. Isometric back muscle exercise and Pelvic floor muscle exercise along with activities of daily living instructions were given to all patients. Only in experimental (group-A), SWD was applied to pelvic region for 15 minute for 14 days at a frequency of 27.33 megacycles (wave length of 11 meters). All the patients were assessed initially and at 3 days interval for 14 days. Final evaluation was done after 8 weeks follow up. Main outcome parameters were Pains score, Tenderness index (lower abdominal tenderness), Visual analogue scale (VAS). Collected data was analyzed by using SPSS package for Windows (Version 12). The results were expressed as mean \pm SD and the level of significance was expressed by p value unless otherwise stated. Student's 't' tests were done to see the level of significance.

Results

Among the study patients the mean age in group-A was 28.31 ± 5.55 years and in group B was 25.26 ± 4.84 years. Among the study population (n=70) highest number of patients 56(80%) had history of MR. The next common risk factors of the patients who had history of multiple sexual partner 7(10%). Other common risk factors of the patients who had history of D & C and IUCD insertion. (Table-I)

Table-I

Risk factors distribution of the patients with PID (n=70)

Risk factors	No. of patients	Percentage
MR	56	80
Multiple sexual partner	7	10
D, E & C	5	7.14
IUCD	2	2.85

In this study maximum number of patients 51(72.85%) were in poor class, 43 (61.42%) patients lived in kacha house, 51 (72.85%) patients only passed below primary level, 53 (75.71%) were housewife. In this study 25 (35.71%) patients had 4 children, 22 (31.41%) had 3 children, 9 (12.85%) had 2 children, 7(10%) had 1 children and 3 (4.28%) had no children. The distribution of PID is increasing with number of parity. In this series 70 (100%) patients had lower abdominal pain, 51(72.85%) patients had per vaginal discharge, 43 (61.42%) patients had dyspareunia, 13(18.57%) patients had low grade fever and 7(10%) patients had vomiting.

In group-A, significant Improvement ($p < 0.05$) in every 3 days was observed during the whole treatment period up to 14 days and significant Improvement ($p < 0.05$) was also observed after 60 days follow up. In group-B, significant Improvement ($p < 0.05$) in every 3 days was observed during the whole treatment period up to 11 days but significant Improvement ($p < 0.05$) was not observed after 14 days and 60 days follow up. Significant improvement ($p < 0.05$) were observed throughout the whole treatment period in both groups. The differences of improvement between the groups were not observed up to 11 days but the significant difference of improvement was observed on day 14 and also at day 60.

Table-II
Comparative treatment response between Group-A (n=35) and Group-B (n=35)

Group	D 0	D-4	D-7	D-11	D-14	D-60
Group-A	8.46±2.61	7.89±2.610	7.40±3.274	7.00±3.008	5.80±2.805	05.97±2.25
Group-B	7.49±2.201	8.17±2.717	8.00±2.461	7.20±2.564	7.29±2.966	7.40±3.21
P value	.097	.655	.389	1.000	0.035	0.036
95% CI	-.182- 2.125	-1.556-.98	-1.982-0.78	-1.983-.782	-2.863-.109	-2.757-.100

Discussion

In the present study, 3.67 percent of all patients in the department of Physical Medicine & Rehabilitation DMCH, Dhaka presented with PID. In 2007 among all patients in gynae out patient department 35% had PID (Record of Gynae outpatient department 2007). A detailed and methodical study of 70 cases in this study showed highest (32.85%) distribution of this disease being in the age group of 25-30 years. Peterson HB et al.¹⁰ mentioned that women with PID were usually under the age of 25 years. Shah HN et al.¹¹ showed in his study that 87 percentage of the patient were between the age group of 20-35 years. Tarafder S⁷ showed the highest incidence (55.21%) of PID in the age group of 26-35 years. The age groups of these studies coincided with our study. This also indicates that young groups are more sufferers. A number of risk factors have been linked to PID including history of MR, multiple sexual partner, D&C, IUCD users. Laila TR⁸ showed that 54.66% of her patients had history of MR. Sultana S⁹ showed that 72.2% of the patients had history of MR and 13.33% patients had termination of pregnancy by D&C and 9% patients had multiple sexual partners. Tarafder S⁷ showed that 66.13% of her patients had history of MR. Kocher M¹² showed that the highest incidence of pelvic infection occurred following termination of pregnancy. It is estimated that 36-53 million termination of pregnancy are performed through out of the world of which 21 million are unsafe.¹³ In FIGO manual on family planning¹³, it is stated that IUCD use is associated with an increase risk of PID estimated to be 1.5-10 fold for IUCD users compared to other methods of contraceptives. In our study 80% of patients had history of MR, 10% had history of multiple sexual partners,

7.14% had history of D&C and 2.85% had history of IUCD users. This figures correlates with Sultana S⁹ study. Laila TR⁸ showed that 68% patients in her study were from lower socioeconomic condition, 28% from middle class and only 4% from higher class. Tarafder S⁷ showed 49.48% patients were from lower socioeconomic status and Sultana S⁹ mentioned 45% patients from lower, 20.6% patients from middle socioeconomic status. In our study highest number of patients (72.85%) came from poor socioeconomic condition followed by lower middle class (20%), upper middle class (4.28%) and rich (2.85%). From the above study, it is difficult to draw a conclusion of the relationship between socioeconomic status and PID because only certain classes of patients lower or middle class usually attend this hospital. Higher socioeconomic classes rarely come to a government hospital. Regarding residence 43(61.42%) patients in our study reside in kacha house and they lived in slum area because of low socioeconomic condition. As the slum people did not maintain their personal hygiene properly and usually suffered from malnutrition their clinical manifestations were more. Sultana S⁹ showed that 65% patients lived in slum area, 21% patients lived in pakka building. The present study showed that the majority (72.85%) of women were illiterate, 28.85% of them had primary level of education and others had secondary education or above. Tarafder S⁷ showed that 51.05% patients were illiterate and rests were educated at primary, secondary or higher level. Sultana S⁹ showed that only 12.9% of her patients were educated up to secondary school or above and 51.3% were illiterate, 35% had primary level of education. Laila TR⁸ showed that majority (69%)

of her patients were illiterate, 24% had primary level of education; only 7% had secondary education or above. These findings are comparable with our study. Overall situation can be improved by educating this women. In this study the distribution of PID increases with the number of parity as we saw that the highest number of patients (25) had four children and 22 patients had 3 children. This result indicates that repeated child birth is an important risk factor for the development of PID. So proper family planning measures can reduce the incidence of PID. Laila TR⁸ showed that 56% patients were multipara, Tarafder S⁷ showed 83.85% of the patients in her study were multipara, Sultana S⁹ showed 81.7% patients were multipara. Peterson HB et al.¹⁰ showed that PID occurred mostly in multipara. Westrom L¹³ showed 74.4% of the PID cases were multipara. These studies therefore focused that in the developing countries patients were mostly parous women and in industrialized countries the majority were younger multiparous women. Present study showed that 75.71% patients were house wife. Laila TR⁸ showed that 90% of the patients were house wife and 10% were in service. Sultana S⁹ showed 83.4% patients were house wife and 16.6% were service holder. In needs more extensive studies with large population and different occupation group to establish the epidemiology of PID. In this study 100% patients present with lower abdominal pain for 5 months to 5 years duration, the presenting complaints of 72.85% patients were per vaginal discharge which is mild or moderate in amount, 61.42% patients were presented with dyspareunia. Low grade fever was the other constitutional symptom found in 13 cases. 10 percent patients presenting complaints was vomiting. 54 patients complained with low back pain. In order of the frequency and intensity, the major symptoms of Laila TR⁸ study were found lower abdominal pain in 100% cases, backache 53.3%, vaginal discharge 56%, dyspareunia 60% and low grade fever in 5%. Tarafder S⁷ showed the common clinical findings were lower abdominal pain 95.31%, backache 64%, and dyspareunia 78.12%. Sultana S⁹ showed lower abdominal pain 100%, backache 98.3%,

vaginal discharge 84% cases, dyspareunia 84.2% cases. Kocher M¹² study showed that lower abdominal pain was the most commonly reported symptom. Laila TR⁸ showed that 100% cases had tenderness of lower abdomen. Sultana S⁹ showed that 53.6% patients had tender lower abdomen. In our study showed that 84.28% patients had tenderness of lower abdomen, 80% patients were malnourished. The findings of present study are competent with other studies. Probably the most interesting features that emerged from this study was the effect of SWD on PID. Usually PID was managed with antibiotic therapy but sign symptoms were not completely resolved with antibiotic alone. There are some literatures in relation to PID. In those literatures PID was treated with antibiotic, exercise and SWD. But it is not scientifically examined. In this study it was tried to observe the effect of SWD on PID. Improvement were observed throughout the whole treatment period in both groups. The difference of improvement between the groups were not observed up to 11 days but the significant difference of improvement was observed on day 14 and also at day 60. In this study, after 14 days treatment and after 60 days follow up significant improvement ($P < 0.05$) was observed in Group A. This indicates that Short Wave diathermy (SWD), antibiotic, exercise with ADL advice are effective in the management of chronic PID.

Conclusion

Considering the findings of the present study and the studies previously done by others, it can be concluded that additional SWD is more effective in reducing the symptoms of pelvic inflammatory disease (PID). Therefore, in PID use of SWD, as adjunctive therapy along with conventional management is effective. As the numbers of patients studied were very small, the information collected needs verification by larger studies.

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