

OUR CLINICAL AND LABORATORY FINDINGS IN PELVIC INFLAMMATORY DISEASE

PELVİK ENFLAMATUVAR HASTALIKTA KLİNİK VE LABORATUVAR BULGULARIMIZ

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ABSTRACT

Objective: The aim of this study was to compare patients with pelvic inflammatory disease with abscess and those without abscess in relation to clinical and laboratory findings and risk factors in an attempt to highlight the predictors of tuboovarian abscess in pelvic inflammatory disease.

Materials and methods: This retrospectively designed study was carried out in Istanbul University, Istanbul Faculty of Medicine, Department of Obstetrics and Gynecology. Fifty-two patients with pelvic inflammatory disease who were hospitalized in our clinic between the years of 1999-2002 were included in this study. Sixteen patients with pelvic inflammatory disease with tuboovarian abscess and 36 patients with pelvic inflammatory disease without any abscess were assessed retrospectively. Both groups were compared with regard to the risk factors, clinical and laboratory parameters such white blood cell counts, age, parity, mucopurulent cervical discharge, curettage and fever, using independent samples t-test and chi square tests.

Results: There was no statistically significant difference between the ages of the patients in both groups. The mean of white blood cells and the percentage of patients with multiparity, with cervical discharge, and with fever were statistically significantly higher in the group of patients with pelvic inflammatory disease with abscess than in those without abscess.

Conclusion: The findings in this study suggested that multiparity, leucocytosis, mucopurulent discharge and fever could predict tuboovarian abscess formation in pelvic inflammatory disease.

Key words: Pelvic inflammatory disease, tuboovarian abscess

INTRODUCTION

Pelvic inflammatory disease (PID) is a common and a serious health problem both in the world and in our country as well. In the United States, annually, over one million women were reported to have experienced acute PID attacks and the direct and indirect costs of PID and its sequelae were estimated to reach a total of 4 billion dollars in this decade (4, 10). Untreated or unsuccessfully treated women may develop life-threatening consequences and even adequately treated women are at much higher risk for potentially serious sequelae which include chronic pelvic pain, tuboovarian abscess formation, ectopic pregnancy, and infertility (2, 3). Especially, surgical interventions carried out for the extraction of tuboovarian abscess result in undesired consequences such as pelvic adhesions, which increase the number of infertile couples and ectopic pregnancy (5).

PID is defined as an upper genital tract infection and inflammation caused by polymicrobial cervical mucosa and sexually transmitted infectious agents (13). The inflammation and infection may be present at any point along the tractus, that includes endometritis, salpingitis and peritonitis. PID is commonly caused by sexually transmitted agents, *N. Gonorrhoeae* and *C.trachomatis* (13, 15). Bacterial vaginosis microorganisms are also isolated from upper genital tract of women with PID. Bacterial vaginosis often occurs in women with PID. These alterations in vaginal flora could facilitate ascending spread of pathogenic bacteria by enzymatically changing the cervical mucus barrier (14).

The aim of this study was to compare patients with PID with abscess and those without abscess in relation to clinical and laboratory findings and risk factors in an attempt

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Table 1. The comparison of two groups according to age, parity, mean white blood cell count, number of curettages, mucopurulent discharge and fever

	Pelvic inflammatory disease (n=36)	Tuboovarian abscess (n=16)	P değeri
Mean age	31.7	31.5	0.556
Parity(nulliparity)	32	11	0.007
Mean WBC(/mm ³)	10297	13304	0.002
Curettage	20	2	0.026
Cervical discharge	16	11	0.013
Fever	16	11	0.001

WBC; White blood cell count

Table 2. Comparison of white blood cell counts between two groups

White blood cell count /mm ³	PID (n=36)	TOA (n=16)
12000 ↑(n and %)	19 (53%)	6 (38%)
12000-16000 (n and %)	11 (31%)	5 (31%)
16000-20000 (n and %)	4 (10%)	5 (31%)
20000 ↓(n and %)	2 (6%)	0

PID: Pelvic inflammatory disease; TOA: Tuboovarian abscess
p < 0.05

to determine important determinants for the development of tuboovarian abscess.

MATERIALS and METHODS

Patients

Fifty-two patients with PID, aged between 19 and 45 years, who were hospitalized in our clinic between the years of 1999-2002 were included in this study. 16 patients with PID with tuboovarian abscess and 36 patients with PID without tuboovarian abscess were assessed retrospectively. The data of the patients were obtained from our clinic archive.

Diagnosis

The criteria for our patient selection for PID were cervical motion tenderness, pelvic pain, fever, cervical mucopurulent discharge, leukocytosis and the presence of ultrasonographic findings of tuboovarian abscess. General Electric (RTx200 V5) ultrasonographic device with a 5 MHZ vaginal probe was used in the diagnosis of pelvic mass. The diagnosis of tuboovarian abscess cases was made by post operative pathological findings, microbiological cultures and the diameter of pelvic mass of 3 cm or greater in sonographic findings or imaging studies.

Both groups were compared with regard to risk factors such as age, parity, fever, leukocytosis, mucopurulent cervical discharge and the numbers of curettage.

Statistical Analyses

The statistical analyses of the data were performed using

chi-square tests and independent samples t- test using SPSS for windows software program (SPSS Inc., Chicago, Illinois, ABD). Statistical significance was set at a level of p value ≤ 0.05.

RESULTS

Age, parity, clinical and laboratory findings in patients with PID without tuboovarian abscess and in those with abscess are presented in Table 1. In both groups, all the patients had pelvic pain. There was no statistically significant difference with regard to age between the groups. The percentage of nullipar patients with PID with tuboovarian abscess was significantly less than that of nullipar patients with PID without abscess (p=0.007). The mean of white blood cells was significantly higher in the group of patients with tuboovarian abscess than that in those without abscess. The percentages of patients with mucopurulent cervical discharge and fever were significantly higher in the group with PID with tuboovarian abscess than those in the group without tuboovarian abscess (p=0.013 for cervical discharge and p=0.001 for fever). The percentage of those with curettage was significantly higher in the group with PID without abscess than that in the group with abscess (p = 0.026).

In the comparison of the groups according to mean of white blood cell counts, it was found that the mean of white blood cell count was significantly higher in those with tuboovarian abscess than that in those without abscess.

The percentage of those with a white blood cell counts between 12000 and 20000 was significantly greater in patients with abscess than that in those without abscess ($p<0.05$) (Table 2).

Six of the fourteen patients in the study group underwent surgical treatment. Two patients had hysterectomy , 2 patients had laparotomy and the other 2 patients had laparoscopic drainage.

DISCUSSION

Several investigators reported that the first acute PID attacks were observed between the ages of 15 and 20 years (7, 8, 9). In the literature, the mean age of tuboovarian abscess formation was reported as 30 years (1). In our study, we found that both groups' average age was 31 years. This conflict could depend on our people's sexual behaviors and religion. Sexual life before marriage in our country is less frequent than that reported in other developed countries. First sexual intercourse commonly begins at an age over twenty.

Particularly, the nulliparity was higher in the group of patients with PID without tuboovarian abscess, which indicated that multiparity was a risk factor for tuboovarian abscess formation. This could depend on younger age and local genital immunological defense mechanisms of the host that could work more properly in young nullipar women than multipar women. Chlamydial infections vary in societies ranging from 1% to 10% (12). Clinical presentations of Chlamydial infections are very different. Subclinical infections are more important than other forms. Subclinical Chlamydial infections are difficult to diagnose and usually do not get a prescription from physicians. The diagnosis of asymptomatic and subclinical forms of Chlamydial infections is very important to prevent the sequelae of pelvic inflammatory disease (4, 6, 12).

Contrary to the expectations, the number of curettages in the group of patients with PID without abscess was higher than that in those with abscess. An explanation is that sterile conditions were being applied to the patients during intrauterine surgical procedures with proper oral antibiotics given after the procedure (2, 3).

Fever and leukocytosis are important parameters in the diagnosis of infection. There is no specific laboratory test in the diagnosis of upper genital system infections (11). In the present study, leukocytosis, fever, and mucopurulent cervical discharge were encountered more frequently in patients with PID with abscess. In PID, we recommend to investigate formation of tuboovarian abscess in the presence of high white blood cell counts, fever and mucopurulent cervical discharge.

In conclusion, the results of this study may have suggested that if fever, leukocytosis and mucopurulent cervical discharge persist in patients with PID, the presence of tu-

boovarian abscess formation should be assessed and further diagnostic procedures should be done such as MRI and CT scans.

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