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Original Article

Clinical Profile of Pelvic Inflammatory Disease (PID).

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Abstract:

Pelvic inflammatory disease is an important and major health problem in Bangladesh. This study was undertaken to find out the common clinical presentation of pelvic inflammatory disease in relation to reproductive health of women in our country. This study has been carried out at the outpatient department of Obstetrics and Gynaecology, Sher- E-Bangla Medical College Hospital, Barisal, during period from January 2010 to December 2010. In this descriptive type of cross sectional study, total number of 150 patients suffering from PID were selected. Details history and thorough clinical examination was performed with the aim of find out clinical presentation of PID. Related investigations were done. This study shows that 54% belongs to age group 26-35 years, 90% patients were married and 4% were separated, 90% were house wifes, 60% patients were from lower socio-economic status. All patients complained lower abdominal pain, 60% had vaginal discharge, 80% patients delivered solely at home and 73.33% were delivered by untrained birth attendants at home. Pelvic inflammatory disease is detrimental to reproductive health and makes the women cripple physically, mentally and socially. So appropriate measures e.g. better obstetric and delivery care, family planning care, safe way of pregnancy termination; health education etc. should be made for our women.

Key words: Pelvic Inflammatory Disease, Clinical profile.

Introduction:

Pelvic Inflammatory Disease (PID) is defined as the inflammation of the upper genital tract including the uterus, fallopian tubes, the ovaries and the pelvic peritoneum[1,2]. The incidence of acute PID has decreased in many countries, though its true prevalence is not well known because the majority of cases are subclinical[3,4].

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The bacterial pathogens involved in upper genital tract infection are principally derived from the normal flora of the vagina and endocervix[5]. Exogenous sources are sexually transmitted or following induced or unsafe abortion or during delivery in unhygienic surroundings[6]. Risk factors for PID are multiple sexual partners, single status, lower socioeconomic status, young age (<30 years), intra uterine contraceptive device, endometrial biopsy, curettage, hysteroscopy and hysterosalpingography[1,4]. Complications of acute PID include the evolution towards tubal damage resulting in tubal infertility, ectopic pregnancy and chronic pelvic pain[7].

This disabling disease can be prevented by better obstetric & delivery care, family planning care, safe way of pregnancy termination & health education[8]. However no organized effort has been made to find out the definite picture of our women who suffers from PID. This study was done to find out the clinical profile of PID in preselected 150 patients.

Materials and Methods:

This Cross sectional Descriptive study was carried out at the outpatient department of Obstetrics and Gynaecology, Sher-E-Bangla Medical College Hospital

(SBMCH), during period from January, 2010 to December, 2010. Total 150 patients of reproductive age group suffering from PID were selected.

Inclusion criteria for the patients were the presence of at least three of the following-symptoms (e.g. chronic pelvic pain or backache, deep dyspareunia), signs (e.g. lower abdominal tenderness, cervical motion tenderness). Women of child bearing age with established other causes of lower abdominal pain, pregnant women, before menarche and post-menopausal women where excluded.

After formulation of aims and objectives of the study, a data sheet and questionnaire form were made for recording all relevant parameters. Careful history and through clinical examination was performed with the aim of detecting clinical presentation of PID. Detailed history about socio-economic status, age duration of marriage, educational status, occupation, past obstetrical history, clinical presentation, menstrual abnormalities, contraceptives were taken. Subsequently, each patient underwent following investigations, e.g. blood Hb%, ESR, total count, end cervical swab for culture and sensitivity, ultrasonogram of lower abdomen.

Ethical consideration:

Study protocol is approved by the institutional ethical committee of Sher-E-Bangla Medical College, Barisal.

Results:

The study was performed on 150 cases. The obtained results are shown in the following tables:

Table - I: Age distribution of the patients (n=150)

Age group in year	Number of patients	Percentage
16 – 25	15	10%
26 – 35	81	54%
>35	54	36%

Table - II: Marital status of the patients (n=150).

Marital status	Number of patients	Percentage
Married (single)	135	90%
Remarried	6	4%
Widow	3	2%
Separated	6	4%

Regarding marital status of the women-among 150 cases 90% were married, 4% were remarried, 2% widow & 4% were separated. Among 150 patient 90% were Muslim, 8% were Hindu and 2% were Christian.

Table - III: Relationship between age of marriage and PID (n=150)

Marital age	Number of patients	Percentage
Before 14 years	53	35%
14 – 18 years	80	53%
After 18 years	17	12%

About 53% of the patient were married in between 14-18 years, 35% were before 14 and only 12% after 18 years.

Table - IV: Socio-economic status (n=150).

Socio-economic status	Number of patients	Percentage
Low	90	60%
Middle	54	36%
Upper	6	4%

Among all 60% were from lower socioeconomic status, 36% from middle and 4% were from the upper socioeconomic status.

Table - V: Occupation of the husband (n=150).

Occupation	Number of patients	Percentage
Farmer	20	14.6%
Labour	51	34%
Driver	15	10%
Business	46	30.66%
Service	16	10.6%

Regarding occupation of the husband, 30.66% of the husbands were businessman, 34% were laborers, 14.65 were farmer, 10% were driver and 10.6% were service holders. Regarding occupation of the patients 90% of the cases were housewifes, 10% were in working group. Among 150 cases majority (60%) were illiterate, 30% had primary education and 10% had secondary education or above.

Table - VI: Relationship with parity of patients (n=150).

Parity	Number of patients	Percentage
0	6	4%
1	15	10%
2-5	84	56%
>5	45	30%

Regarding relationship with the parity of patients, out of 150 patients majority (56%) were 2-5 parity, 30% were more than 5, only 10% were para 1 and 10% were nullipara. Relationship between place of delivery and PID reveals 80% were delivered at home, 8% at hospital and 12% had their deliveries at home and at hospital also. Regarding relationship between conduction of delivery and PID, 73.33% was delivered by untrained birth attendants at home and 26.66% were delivered by trained birth attendants. Out of 150 cases 60% had history of puerperal sepsis and 40% had normal puerperium.

Table - VII: Characterstics of pain (n=150).

Nature of pain	Number of patients	Percentage
Sudden	18	12%
Gradual	105	70%
Gradual and constant	27	18%
Dull	114	76%
Colicky	26	17.33%
Excruciating	10	6.7%
Non radiation	18	12%
Unilateral radiation	12	8%
Bilateral radiation	120	80%
Aggravated during movement	105	70%
Coitus	90	60%
Provocated with micturition	60	40%

Among all, in 76% cases pain was dull, 76% gradual and constant, 10% periodic, 12% sudden, 17.33% colicky, 6.7% excruciating, 70% aggravated with movement, 60% provocated with coitus and 40% with micturition.

Table - VIII: Presenting complaints of the patients (n=150)

Complaints	Number of patients	Percentage
lower abdominal pain	150	100%
Backache	80	53.3%

All the patients complained lower abdominal pain, 53.3% had backache, 70% had congestive dysmenorrhorea. Ninety percent patient had menorrhagia and irregular menstruation, 60% had dyspareunia, 40% had pervaginal discharge, 56% had dysuria, 8% had infertility and 14.6% had other constitutional symptoms.

Table - IX: Per-abdominal examination finding (n=150)

Finding	Number of patients	Percentage
Tenderness present in lower abdomen	150	100%
Palpable mass in lower abdomen	24	16%
Muscle guard	39	26%

Common findings of per-abdominal examination were tenderness of the lower abdomen (100%) and 26% had positive muscle guard.

Table - X: Per-vaginal examination findings (n=150)

Finding	Number of patients	Percentage
Perineal tear	60	40%
Utero vaginal prolapse	16	10%
Discharge (without smell)	111	74%
Foul smelling discharge	24	16%
Evidence of cervicitis	45	30%
Cervical tear	16	10.6%
Erosion	21	14%
Anteverted uterus	108	72%
Retroverted uterus	42	28%
Mobile uterus	78	52%
Restricted uterus	67	44%
Fixed uterus	5	7.5%
Cervical motion tenderness	105	100%
Tenderness of the fornix	110	73%
Thickening of the fornix	22	14.6%
Tubo ovarian mass	24	16%

Relationship between termination of pregnancy with PID shows most 82 (54%) of the patients had history of MR. 30 (20%) patients had history of repeated abortion and 20 (13.33%) had history of induced abortion. Out of this 150 patients with history of pregnancy termination, 70 (46.66%) had history of pelvic infection following that event. Regarding contraceptive history, out of 150 patients, majority 63 (42%) were non contraceptives users. Thirty six (24%) patients used oral pills and rest of the patients used other methods either singly or in combinations.

Discussion:

The exact incidence of PID is unknown because the disease cannot be diagnosed reliably from clinical symptoms and signs[9]. Moreover women, who have PID, present to the general practitioners, gynecologist and surgeons. Hospital discharge registries are poor surrogate markers for the true prevalence of PID. However, prevalence of PID is increasing all over the world[10]. Five percent of gynaecological admissions in the hospitals of India and Pakistan are due to PID[11]. With this rising incidence of PID and its considerable impact on reproductive health of an individual, attention should be directed towards improved diagnosis and management[12,13,14].

Among the 150 cases in this series, highest (54%) occurrence of this disease is in the age group of 26-35 years. Peterson et al also showed that woman with PID are usually under the age of 25 years[15]. Shah et al showed that 87% of the patients belong to the age group 20-35 years[16]. There is similarity between these last studies which was conducted in India, with the disease is mainly STD related, but in developing countries, it is mostly non-STD related and occurs in later age group.

Younger age is marked by biological characteristics contusive to the development of PID, such as a lower prevalence of protective chlamydial antibody, larger zone of cervical ectopy and greater permeability of cervical mucosa. A correlation between early coital indulgence and promiscuous sexual relationship might explain the very high salpingitis incidence in sexually active teenage girls. However, STD is less important for development of PID in the somewhat older women[17]. In this age group of patients and also in women who have had two or more episodes of PID, anaerobic bacteria are thought to be the aetiological agent. The reason behind this may be the post PID fallopian tubes are more vulnerable to infections by anaerobes[18]. Anatomic changes induced by pregnancy and delivery contribute to an easier access to the vagina for bowel flora[19]. This may lead to an increased occurrence of a type of non-venereal PID in women of comparatively higher age.

Marital status is often referred to as risk marker for PID because active sexual life has an impact on the occurrence of PID. Recent histories of pregnancy and abortion have been suggested to be associated with risk of PID[20]. In this study regarding marital status of patients 135 (90%) were single married, 4% was remarried, 2% was widow and 4% was separated. Regarding patient's occupation 90% patients were housewifes. In this study, majority (60%) of the women were illiterate, primary educated were 30% and 10% had education up to secondary level or above. It is the lack of education which makes the women ignorant about the fact that their sufferings and illness are preventable by safe child birth and abortion practice[20].

In this series 60% belonged to the low socioeconomic group and it is difficult to draw a conclusion from this study between the socioeconomic status and PID because if we compare the incidence in other socioeconomic group (middle and higher), there is no significant difference[17].

Regarding parity, 84% of patients were multiparous, 80% were delivered at home, untrained birth attendants conducted 73.33% of the deliveries. About 60% deliveries were complicated by puerperal sepsis. This entails the pathophysiological aspect of PID. Peterson et al showed that PID occurred mostly in multipara[15]. But another study by Westrom et al revealed that 74.4% of PID cases were nulliparous (mostly acute cases)[22]. These studies therefore, showed that in developing countries the majority of cases were younger nulliparous women.

As it has already been proved that STD has an important role in aetiology of PID, the former being related to the sexual activity of an woman and the number of her sexual partners. A survey on the sexual behavior of USA college girls showed that during the last two decades, there has been a gradual rise in premarital sex amongst them[20]. Such a change explains the prevalence of STD and hence PID in young nulliparous women.

Majority of our rural women depend primarily on untrained or relatively less trained birth attendants and relatives for child assistance. They conduct the delivery process in very unhygienic environment, never use any sterile gloves and conduct repeated examinations even after rupture of the membrane. This gives an opportunity for potential pathogens to pass from the lower genital tract into the normally sterile environment of uterus. It is more common, however, for the infection to remain localized in the pelvis and if effective treatment is not given immediately, there is a danger of chronic pelvic infection with tubal blockage[21].

In this study it has been shown that there was history of termination of pregnancy in the form of MR was 54.66% or abortion was 13.33%. More than fifty percent of them developed sepsis. It is estimated that 36-53 million induced abortions are performed annually throughout the world of which about 21 million are unsafe abortion[22].

The rates of infectious complications for such procedure depend on precautions and technique. Ideally, MR should be done by trained persons. But in our country it is frequently done by unauthorized or untrained persons. Due to their lack of knowledge of aseptic conditions, PID occurs. The incidence of pelvic infection can also be minimized by screening and prophylactic treatment of women for STD before termination of pregnancy[23].

Regarding the different methods of contraception, present study showed that majority (42%) were nonusers and it was due to the fact that acceptance and sustained use of family planning methods are low in many parts of the developing world, including Bangladesh. On the other hand, most frequently used method of contraception is combined oral pill 24% and IUCD was the third choice in this study group.

During IUCD insertion, there is introduction of vaginal and cervical organisms into the endometrial cavity and accounts for most cases of IUCD related PID. Preliminary data suggests, prophylactic use of Doxycycline at the time of IUCD insertion may reduce the risk of developing PID. Oral contraceptive induces increased cervical ectropion which favors cervical *C. tracomatis* infection. On the other hand in the upper genital tract, oral contraceptive appears to provide some protection against symptomatic infection. There are several mechanisms for this protective effect of oral contraceptive. These are the reduced menstrual blood loss producing a less favorable environment for bacterial growth, thickened cervical mucus acting as barrier against ascending infection.

Major symptoms for which the patients of this series reported the obstetric and gynecological outpatient department, SBMCH are lower abdominal pain 100%, backache 53.3%, dyspareunia 60%. They also complained of menstrual abnormalities in the form of menorrhagia 40%, dysmenorrhoea 70%, menorrhagia with dysmenorrhoea 20% and amenorrhoea 8%.

In this study 10 cases of sub fertility amongst which 3 were primary sub fertile and rest had secondary sub fertility. Among these 7 cases, 2 patients had no children, e.g. their first pregnancy terminated in abortion. Their symptoms of PID started since that event and they also failed to conceive.

The most common cause of acquired sub fertility was found to be pelvic infection resulting from unsafe abortion, puerperal infection and STD while tubal factors were present in 36% of sub fertile women in the developed countries, that proportion reached 39% in Asia, 44% in Latin America and 85% in Africa. Regarding the occurrence of another major morbidity i.e. occurrence of ectopic pregnancy present study showed that 2 patients gave history of ectopic pregnancy.

A large number of patients showed features of chronic cervicitis. Majority of the patients showed evidence of pelvic cellulitis on bimanual examination. Adnexal mass was palpated in 24 patients. Following an acute pelvic infection, there was healing by fibrosis[23]. This results in kinking of tubes which get adherent to the ovaries, uterus, intestine, omentum and pelvic peritoneum. This leads to the formation of tubo-ovarian mass.

Conclusion:

The worldwide increase in the incidence of PID during the last few decades has led to the secondary epidemics of tubal factor infertility and ectopic pregnancy. The sequelae of PID account for a large proportion of the morbidity associated with sexually transmitted infections and the direct and indirect costs associated with PID are enormous. This is a small study. This study might not reflect the actual picture of PID cases.

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