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FREQUENCY OF BILATERAL TUBAL OBSTRUCTION AND COMMON FACTORS LEADING TO IT AMONG WOMEN PRSESENTING WITH SECONDARY INFERTILITY

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ABSTRACT

BACKGROUND: Infertility is not uncommon in our female population as we live in a geographical area where the population growth rates are amongst the highest in the world. A variety of cultural norms and values force couples to enhance family. So a sensitive and dedicated efforts need to be made to look into the causes of secondary infertility and their treatment.

OBJECTIVES: To determine the frequency of bilateral tubal obstruction and common factors leading to it among women presenting with secondary infertility.

METHODOLOGY: It was a hospital based descriptive cross sectional study conducted at the department of obstetrics & gynecology Postgraduate medical institute LRH Peshawar from 8th August 2011 to 8th July 2013. Data was collected by non probability consecutive sampling technique. A total of 260 patients were enrolled in study. In patients presenting with secondary infertility hysterosalphingography was performed, in those with bilateral tubal obstruction detailed history was taken to detect, the history of instrumentation to genital tract, lower abdominal surgery or history of PID. Laparoscopy was done in all patients with bilateral tube obstruction to confirm the diagnosis and determine causes.

RESULTS: In this study mean age was 30 with standard deviation of ±2.12. Bilateral tubal obstruction was found in 73(28%) of the cases, out of which history of pelvic inflammatory disease was present in15 (21%) followed by history of instrumentation of genital tract in 11(15%) of cases. Positive history of lower abdominal surgery was present in 4(5%) and 3(4%) patients had fibroids.

CONCLUSION: Tubal pathology is one of the main causes of female infertility. A great caution is required in pelvic operative techniques to prevent infection and tubal damage.

KEY WORDS: secondary infertility, bilateral tubal obstruction, pelvic inflammatory disease.

INTRODUCTION

Secondary infertility is defined as inability of a couple to achieve pregnancy within one year of unprotected regular intercourse, after having conceived once or more in past. The incidence of infertility in any community varies from 5-25% and in Pakistan it is 21.9 %.[1,2,3] Both partners can have problems, but female factors contribute 40 to 50%. Tubal factors accounts for 25 to 35% of all causes in infertile women.[4]

Tubal disease or damage may involve proximal, distal or the entire tube and obstruction can be transient or permanent. Proximal obstruction accounts for 10-25% of the cases. Bilateral tubal obstruction contributes to 15-20% of primary and 40% of secondary infertility and can be due to tissue damage, scarring and adhesions formation.[5]

Various factors contribute to tubal damage in couples with secondary infertility. Pelvic infection and previous pelvic surgery are the two most common entities responsible for tubal damage[5]. We have significant number of

patients with complain of secondary infertility and they have been offered huge set of investigations to determine the cause.

METHODOLOGY

This was a hospital based Cross-Sectional descriptive study , conducted at the department of Obstetrics & Gynecology, Postgraduate Medical Institute, Lady Reading Hospital Peshawar from 8th August 2011 to 8th July 2013.Permission was taken from hospital Ethical Committee before starting the study. Data was collected by non-probability consecutive sampling technique. Sample size was calculated to be 260 using 5.6% proportion of fibroids among patients with infertility having bilateral tubal obstruction, 2.8% margin of error and 95% confidence interval using WHO software for sample size determination.

All the women presenting with secondary infertility within reproductive age group of 18 _45 years were included in the study, while previously diagnosed cases of bilateral tubal obstruction and patients with history of use of intrauterine contraceptive devices were excluded from study.

Secondary infertility was defined as failure to achieve conception after having conceived once or more, after a minimum of one year of regular unprotected intercourse, while bilateral tubal obstruction is obstruction of both fallopian tubes detected by HSG.

Pelvic inflammatory disease was diagnosed by the presence of any FOUR out of the SIX features. (1) History of fever of more than 100 in the last one month (2) History of foul swelling vaginal discharge (3) history of menstrual irregularities (4) History of pain during intercourse in the last one month (5) Cervical motion tenderness, adnexal tenderness on examination (6)vaginal discharge culture showing growth of microorganisms.

Women fulfilling the inclusion criteria were enrolled in the study through OPD and were subjected to complete history, physical and gynecological examination. Name, age and address were recorded in pre designed performa. In all these women hysterosalphingography was performed to detect bilateral tubal obstruction. All cases were performed by single expert gynecologist having minimum of 5 years experience. All the patients, in whom bilateral tubal obstruction was detected, were then subjected to detailed history to detect history of lower abdominal surgery and history of instrumentation to genital tract. And in these patients laparoscopy was done to confirm the diagnosis and to look for the causes of bilateral tubal obstruction. All the patient assessments and final decision regarding common factors were taken by an expert gynecologist.

All the data were entered and analyzed by SPSS version 10.0.mean ± SD was calculated for quantitative variables like age. Frequencies and percentages were calculated for categorical variables like bilateral tubal obstruction and common factors leading to it (pelvic inflammatory diseases, fibroids, instrumentation to genital tract, history of lower abdominal surgery). Bilateral tubal obstruction and common factors leading to it was stratified among age to see the effect modification. All the results were presented in the form of tables and graphs.

RESULTS

Age distribution among 206 patients was analyzed as most of the patients n=99 (38%) were in age group 21-30 years followed by n=88 (34%) patients were in age group 31-40 years, n=42 (16%) patients were above 40 years and n=31 (12%) patients were less than 20 years of age. Mean age was 30 with standard distribution of ± 2.12. (Table 1)

Table 01 AGE DISTRIBUTION (n=260)

Age distribution	Frequency	Percentage
Less than 20 years	31	12%
21-30 years	99	38%
31-40 years	88	34%
Above 40 years	42	16%
Total	260	100%

Frequency of bilateral tubal obstruction among 260 patients was analyzed as n=73 (28%) patients had bilateral tubal obstruction while n=187 (72%) didn't have bilateral tubal obstruction. (Table 2).

Table 02 BILATERAL TUBAL OBSTRUCTION (n=260)

Bilateral tubal obstruction	Frequency	Percentage
Yes	73	28%
No	187	72%
Total	260	100%

Frequency of common factors causing bilateral tubal obstruction among n=73 (28%) patients was analyzed as most of the patients n=15 (21%) had pelvic inflammatory disease followed by n=11 (15%) patients had instrumentation to genital tract, n=4 (5%) patients had positive history of lower abdominal surgery and n=3(4%) patients had fibroids. (Table 3)

Table 03 COMMON FACTORS (n=73)

Common factors	Frequency	Percentage
Pelvic inflammatory diseases	15	21%
Instrumentation to genital tract	11	15%
History of lower abdominal surgery	4	5%
Fibroids	3	4%
Total	33	45%

Common factors of bilateral tubal obstruction in relation with age as in 15 cases of pelvic inflammatory disease, 6 patients were in age range 21-30 years, 5 patients were in age range 31-40 years and 4 patients was above 40 years of age. Similarly in 3 cases of fibroids, 2 patients were in age range 21-40 years. In 11 cases of instrumentation to genital tract, one patient was less than 20 years, 4 patients were in age range 31-40 years and 2 patients were above 40 years of age. In 4 cases of abdominal surgery, 2 patients were in age range 21-30 years and 2 patients were in age range 31-40 years. (Table 4)

Table 04 ASSOCIATION OF COMMON FACTORS IN AGE GROUP (N=73)

Common factors VS Age group	<20 years	21-30 years	31-40 years	>40 years	Total
Pelvic inflammatory diseases	0	6	5	4	15
Fibroids	0	2	1	0	3
Instrumentation to genital tract	1	4	4	2	11
History of lower abdominal surgery	0	2	2	0	4
Total	1	14	12	6	33

DISCUSSION

Healthy and patent fallopian tubes play an important role in the transfer of unfertilized and fertilized eggs to the uterus thus assisting conception and child bearing ability while the diseased tubes act otherwise. Checking the tubal patency is one of the important steps in investigating the female partner. Hysterosalphingography, hysteroscopy, laparoscopy, salphingoscopy and sonosalphingography are the different techniques available. Laparoscopy has an additional advantage that one can visualize the other abdominal and pelvic structures, can take biopsy and can do adhesiolysis and laser surgery as well[6].

In our study most of the patients 38% were in age group 21-30 years followed by 34% patients in age group 31-40 years, 16% patients were above 40 years and 12% patients were less than 20 years of age. Similar results were quoted in other studies as women in age range of 33 to 37 years revealed more of secondary infertility in Pinar H et al, but a study from Uganda reported secondary infertility to be more common between 26 and 30 years of age.[7]

In our study bilateral tubal obstruction was found in 28% patients and most of the patients 21% had pelvic inflammatory disease, 15% patients had instrumentation to genital tract, 5% patients had positive history of lower abdominal surgery and 4% patients had fibroids. Similar results were found in study done by Aziz et al[8], Bahamondes et al[9] and Safarinejad MR[10] in which incidence of bilateral tubal obstruction was found to be 32.5% out of which 16.7% had pelvic inflammatory disease, 11% patients had instrumentation to genital tract, 6.9% patients had positive history of lower abdominal wall surgery and 5.6% patients had fibroids.

In Madagascar University hospital, a twelve month prospective study was carried out to find out the possible causes of infertility in couples.[11]Ttubal obstruction was responsible for 46% of cases, hormonal disturbances in 76% and genital infections in 30% cases. Most of the studies have reported coexistence of multiple causes of infertility at one time. So the selection of most effective approach to manage infertility must be individualized and based on the extent of the disease, additional infertility factors, patients comfort and frank discussion of success rate and risks with the couple.[12]

Our study showed that common risk factors for bilateral tubal obstruction commonly occurs in age range of 21-40 years as in case of pelvic inflammatory disease, 6 patients were in age range of 21-30 years, 5 patients were in age range31-40 years and 4 patients were above 40 years of age. Similar observations were also found in a study done by Akinola et al.[13]

Early sexual practice and rise in the number of young sex workers can increase the number of cases of tubal pathology. Peritubal adhesions though difficult to confirm on HSG, is inferred when contrast remains loculated round the tube and does not spread in the peritoneum freely or canalized flow is noted.[13]

CONCLUSION

Tubal pathology is one of the main causes of female infertility. The results of medical, surgical and assisted reproduction techniques are comparable but in none of the cases take home baby rate is more than 20%. So a great caution is required in pelvic operative technique which will prevent infection and tubal obstruction. Infertility is not only social and psychological problem for the couple; it is also a medical enigma. Medical profession could never achieve cure in 100% of cases. So dedicated efforts to prevent tubal damage is the best policy.

REFERENCES

1. Ghazi A,Saddique M,Siddiq N,Jabbar S,Ali T,Jaipal S.Subfertility:Experience in a Tertiary care hospital.Pak J Surg. 2007;23(4):283-6
2. Boricha YG,Sharma RK,Boricha BG,Mhapankar S,Chaterjee A,Nurshetty J.Laparoscopy in 50 infertile couple: prospective study.IJMCR.2011;2(2):63-6.
3. Parveen S,Khanum M.Role of combined diagnostic laparscopy and simultaneous diagnostic hysteroscopy for evaluation of female subfertility factors.J Surg Pak.2010;15(1):44-7.
4. Haider G ,Rani S,Talpur S,Zehra N,Munir A.Laparoscopic evaluation of female infertility.J Ayub Med Coll Abbottabad 2010 Jan-March;136-138.
5. Soper DE.Pelvic inflamatory disease.Obstet & Gynecol.Aug 2010;116(2):419-28.
6. Pinar H, Sharma S. study of primary infertility in females by diagnostic laproscopy. Internet J Med 2006;1(2):7-9
7. Pinar H, Kodaman, Arici A, Seli E. Evidence based diagnosis and management of tubal factor infertility. Current opinion obstet Gynecol; 16:221-9.
8. Aziz N. laproscopic evaluation of female factors in infertility. J Coll Physicians Surg Pak Oct2010;20(10):649-52.
9. Bahamondes L, Bueno JG, Hardy E, Vera S, Pimental E, Ramos M. Identification of main risk factors for tubal infertility. Fertil Steril. 2004;6:478-82.
10. Safarinejad MR. infertility among couples in a population based study in Iran, prevalence and associated risk factors. Int J Androl 2007:3;303-14.
11. Wontgra-ngan S, Vutvanich T. Alternative treatment for infertile patientswith proximal tubal obstruction. Chiang Mai Med Bull 2006;45(3):113-8.
12. Bhattacharya S. Infertility. Dewhurts text book of Obstetrics & Gynaecology. 7th edition. Blackwell publishing, oxford; 2007:440-60.

13. Akinola RA, Alinola Ol, Fambamwo AO. Infertility in women, Hysterosalphingographic assessment of fallopian tubes in Lagos, Nigeria. Educational search & review 2009;4(3):86-9

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