



## SUBFERTILE WOMEN; FREQUENCY OF FACTORS LEADING TO TUBAL BLOCKAGE EVALUATED BY LAPAROSCOPY.

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**ABSTRACT... Objectives:** To determine the frequency of factors leading to tubal blockage in subfertile women evaluated by laparoscopy. **Study Design:** Cross-sectional study. **Period:** Six months from 1 February 2015 to 31 July 2015. **Setting:** Department of Obstetrics & Gynaecology of Nishtar Hospital Multan. **Methods:** Two hundred and eighty (280) married primary subfertile females presenting with primary and secondary subfertility of age more than 20 and less than 40 years were included. Laparoscopy was done in every patient. Data was analyzed by SPSS 19. Descriptive statistics was used to calculate mean $\pm$ SD for continuous variables. Frequencies and percentages was calculated for qualitative variables. P value  $\leq$  0.05 was consider significant. **Results:** Mean age of the patients was 30.52 $\pm$ 5.72 years. Out of 280 patients, 175 (62.5%) were Nulliparous, 77 (27.5%) were of parity status 1 and 28 (10%) were of parity status 2. Intraoperative findings of laparoscopy revealed tubal blockage in 51 (18.2%) women. The most common cause of tubal blockage was Neisseria Gonorrhoea diagnosed in 17 (33.4%) patients, Pelvic Inflammatory disease was diagnosed in 14 (27.4%) patients, Chlamydia Trachomatis in 17 (21.6%) patients and Endometriosis in 9 (17.6%) patients. **Conclusion:** The incidence of tubal blockage in sub fertile women is 18.2%. Neisseria Gonorrhoea infection, Pelvic Inflammatory disease, Chlamydia trachomatis infection and endometriosis are common factors responsible for tubal blockage.

**Key words:** subfertility, Laparoscopy, Tubal blockage, Hysterosalpingography.

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### INTRODUCTION

The incidence of subfertility in reproductive couples varies from 10-15% (5.3% in rural areas and 6.8% in urban areas).<sup>1,2</sup> According to an estimate about 60-80 million people are suffering from infertility around the globe.<sup>3</sup> In Pakistan prevalence of infertility is about 21.9% out of which 18.4% is secondary infertility and 3.5% is primary infertility.<sup>4,5</sup> In Pakistan most of the infertile couples go to Hakeems resulting in further worsening of the condition.<sup>6</sup> Fallopian tubes normal functionality is a prerequisite for female fertility. Tubal blockage is one of the major causes of female infertility and is responsible for 15-30% cases of infertility out of which 40% cases are of secondary infertility and 15% of primary infertility.<sup>7</sup> Tubal blockage usually occurs as a result of sexually transmitted infections, endometriosis, previous pelvic surgery and occasionally

developmental defects.<sup>7</sup> Genital tuberculosis is also a cause of tubal blockage in developing countries like Pakistan, Bangladesh, India and Nepal.<sup>8</sup> Laparoscopy hysterosalpingography (HSG), and hysteroscopy are techniques used to investigate tubal defects. Laparoscopy has a vital role in the diagnostic evaluation of women with infertility. it offers an optimum way of direct visualization of pelvic organs to find out the hidden pathology.<sup>9</sup> According to NICE guidelines infertile women with suspicion of having other comorbidities e.g. pelvic inflammatory disease or endometriosis should be advised for laparoscopy for evaluation of tubal and pelvic examination.<sup>10</sup> This study was conducted to determine the frequency of factors leading to tubal blockage in subfertile women evaluated by laparoscopy.

## METHODS

This cross sectional study was conducted in the department of Obstetrics & Gynaecology of Nishter Hospital Multan. The duration of study was Six months from 1 February 2015 to 31 July 2015. Two hundred and eighty (280) married primary subfertile females presenting with primary and secondary subfertility of age more than 20 and less than 40 years were selected for this study. Women with suspicion of pelvic cause of subfertility having normal sexual parameters of husbands and duration of subfertility of >12 months were included. Couples who do not lived together for at least 12 months, having subfertility of male partners, and suffering from other medical disorders e.g. diabetes, hypertension, hyperthyroidism and having contraindication for laparoscopy were excluded from the study. Ethical approval was taken before starting the study.

After taking informed consent, patient details was collected on pre-design proforma regarding duration of marriage, duration of subfertility, type of subfertility e.g. primary or secondary. Laparoscopy was scheduled in proliferative phase of menstrual cycle. Patients were admitted one day prior to laparoscopy. Apart from complete history, general physical examination, standard investigations were performed. ECG and x-ray was done pre-anaesthetic evaluation. In Operation Theater general anesthesia was given to patient and draped. After giving one centimeter infra-umbilical incision, peritoneal cavity was filled with CO<sub>2</sub> gas and intra-peritoneal pressure was maintained at 15mmHg during surgery. Pelvic organs were visualized and by grasping ovarian ligament. Methylene blue dye was injected through cervix into uterine cavity, spillage of dye was observed into pelvic cavity for tubal patency on both sides of tubes. Laparoscopy was done by consultant gynecologist having 5 year post fellowship experience and researcher was assistant.

Data was analyzed by SPSS 19. Descriptive statistics was used to calculate mean±SD for continuous variables. Frequencies and

percentages was calculated for qualitative variables. P value  $\leq 0.05$  was consider significant.

## RESULTS

Mean age of the patients was  $30.52 \pm 5.72$  years. Mean BMI of the patients was  $26.7 \pm 3.2$  Kg/m<sup>2</sup>. Regarding Parity status, out of 280 patients, 175 (62.5%) were Nulliparous, 77 (27.5%) were of parity status 1 and 28 (10%) were of parity status 2. About duration of infertility out of 280 patients, 53 (18.9%) were infertile from 13-24 months, 105 (37.5%) infertile from 25-48 months, 93 (33.2%) infertile from 49-72 months and 29 (10.4%) were infertile from 73 months and above.

There were only 11 (4.0%) females who were married 2<sup>nd</sup> time and the remaining 269 (96.0%) were married 1<sup>st</sup> time. The duration of marriage at the time of presentation in 1<sup>st</sup> time married women was 13-24 months in 34 (12.1%) women, 25-48 months in 99 (35.4%) women, 49-72 months in 84 (30.0%) and 73 and above months in 52 (18.5%) women. Duration of marriage in 2<sup>nd</sup> time married women at the time of presentation was 13-24 months in 3 (1.1%) women and 8 (2.9%) women.

Intraoperative findings of laparoscopy revealed tubal blockage in 51 (18.2%) women. The most common cause of tubal blockage was Neisseria Gonorrhoea diagnosed in 17 (33.4%) patients, Pelvic Inflammatory disease was diagnosed in 14 (27.4%) patients, Chlamydia Trachomatis in 17 (21.6%) patients and Endometriosis in 9 (17.6%) patients.

Name of Variable	Value
Age (Y)	30.52±5.74
Body Mass Index (Kg/m <sup>2</sup> )	26.7±3.2
<b>Parity Status</b>	
Nulliparous	175 (62.5%)
Parity status 1	77 (27.5%)
Parity Status 2	28 (10.0%)
<b>Duration of Infertility</b>	
13-24 months	53 (18.9%)
25-48 months	105 (37.5%)
49-72 months	93 (33.2%)
73 and above	29 (10.4%)

Table-I. Demographic and Baseline Characteristics

Name of Variable	Value
1 <sup>st</sup> time married	269 (96.0%)
2 <sup>nd</sup> time married	11 (4.0%)
<b>Duration of 1st marriage at the time of Presentation</b>	
13-24 months	34 (12.1%)
25-48 months	99 (35.4%)
49-72 months	84 (30.0%)
73 and above	52 (18.5%)
<b>Duration of 2nd marriage at the time of Presentation</b>	
13-24 months	3 (1.1%)
49-72 months	8 (2.9%)

Table-II. Marital Characteristics of Patients

Name of Variable	Value
Tubal Blockage	51 (18.2%)
<b>Causes of Tubal Blockage</b>	
Chlamydia Trachomatis	11 (21.6%)
Neisseria Gonorrhoea	17 (33.4%)
Endometriosis	9 (17.6%)
Pelvic Inflammatory Disease	14 (27.4%)

Table-III. Incidence of Tubal Blockage and Its Causes.

## DISCUSSION

The incidence of infertility is increasing day by day and it has now become a common medical issue. Laparoscopy has a very vital role in the evaluation of infertility and its causes.<sup>11</sup> Infertility due to tubal blockage accounts for large proportion of infertile females. Tubal occlusion, peritubal and peri-ovarian adhesions are responsible for inhibition of ovum uptake and transport. Pelvic Inflammatory disease and salpingitis are among the most common causative factors for responsible for tubal blockage. Prevalence of tubal blockage after 1<sup>st</sup> time of pelvic infection has been reported to be 12.0%, after 2<sup>nd</sup> infection 23.0% and 54.0% after 3<sup>rd</sup> episode of infection.<sup>12,13</sup> Inflammation, trauma and endometriosis can also cause damage to these tubes.<sup>14</sup>

In our study, out of 280 patients, tubal blockage was found in 18.2% patients. In other studies conducted in Pakistan the incidence of tubal blockage in infertile women has been reported to be 13.0% to 28.0%.<sup>6,15,16</sup>

In our study, the most common organism causing tubal blockage was Neisseria Gonorrhoea infection diagnosed in 17 (33.4%) patients and Chlamydia

Trachomatis infection in 17 (21.6%) patients. In our study, the incidence of pelvic inflammatory disease (PID) was 27.4%. In the study of Shetty et al, pelvic inflammatory disease was diagnosed in 44.1% patients. In another study the incidence of pelvic inflammatory disease was 42.0%. The incidence of PID was less as compared to these studies.

In our study, the incidence of endometriosis was 17.6%). In the study of Haider et al incidence of endometriosis was 55%.<sup>17</sup> Incidence of endometriosis was very less in our study as compared to this study. However in a study by Mahmood et al, the incidence of endometriosis was 13.6%.<sup>18</sup> In the study of Shetty et al this incidence was 18.0%<sup>8</sup> and Aslam et al and asghar et al reported 25.0% incidence of endometriosis in their studies.<sup>19,20</sup> Our study supported the results of these studies.

## CONCLUSION

The incidence of tubal blockage in infertile women is 18.2%. Neisseria Gonorrhoea infection, Pelvic Inflammatory disease, Chlamydia trachomatis infection and endometriosis are common factors responsible for tubal blockage.






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### AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Dr. Rahat Akhtar	Concieve idea, Study design	
2	Dr. Nadia Taj	Data collection	
3	Dr. Sumera Mehnaz	Manuscript writing, Data analysis	
4	Dr. Aamir Furqan	Data collection, help in manuscript writing, Data analysis	
5	Dr. Mehnaz Khakwani	Given final approval, Study design	
6	Dr. Hajira Masood	Proof reading, Statistical analysis	