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Frequency Of Hysterosalpingography Findings In Females Presenting With Infertility In Gujrat

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ABSTRACT

Background*: Infertility is a gynecological illness which has clinical, financial and psychological consequences that affects 1.3% to 25.7% of couples throughout the world. Hysterosalpingography is a typical imaging technique used in gynecological practice to diagnose infertility in women.*

Aim And Objective: *The objective of our study was to evaluate the frequency of Hysterosalpingography findings in females presenting with infertility in Gujrat.*

Methodology: *The prospective cross sectional study was carried out at X-Ray unit in Azeem Ultrasound & Digital X-Rays center, Gujrat, Pakistan. A total of 90 females patients with infertility were enrolled in present study. The duration of this research work was from February 2022 to May 2022. The data was gathered using a predesigned questionnaire form.. Statistical Package of Social Sciences was used to analyze the data. Frequency of different findings was found out. These were then graphically portrayed in the form of tables and graphs.*

Results : *We observed 90 female patients out of which 72 (80%) patients found to be normal. In 18 (20%) patients fallopian tube blockage was diagnosed. Out of 18 patients, 8 (8.9%) were having right sided fallopian tube blockage, 8(8.9%) were having bilateral tubal blockage while only 2 (2.2%) showed left sided tube block. Hydrosalpinx was found in 4(4.4%) patients and uterine anomaly in 2(2.2%) patients.*

Conclusion*: Fallopian tube blockage and hydrosalpinx were common factors of infertility in our study. Hysterosalpingography provides an easy and affordable source for evaluation of infertility factors.*

Key Words: Hysterosalpingography, Infertility, Fallopian tubes, Blockage, Hydrosalpinx.

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INTRODUCTION

Hysterosalpingography is a typical imaging technique used in gynaecological practise to diagnose infertility in women.[1] The contour of the uterine cavity, fallopian tubes, and surrounding peritoneal cavity are visible after the injection of contrast through the cervical canal.[2] In our environment, HSG is still the method of choice for assessing the patency of fallopian tubes. It is perhaps the most typical uterine instrumentation for women who are infertile.[3] Tubal illness caused by genital infections contributes greatly to infertility in our environment.[2] The failure to get pregnant clinically after engaging in unprotected sexual activity for at least a year is what is known as infertility, a reproductive system disease.[4, 5] Infertility is classified as either primary or secondary. "The failure of pregnancy for a couple who wishes a child after 12 months or more of frequent unprotected sexual intercourse, during which they've never taken any contraceptives," according to the definition of primary infertility. Secondary infertility is described as "the lack of a live birth for women

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who want to have a child and have been in a relationship for at least five years since their previous child born, during which they did not utilise contraception."[7] At some point throughout their reproductive lives, 8 to 15 percent of all women are thought to have primary infertility or secondary infertility. Primary infertility is less prevalent than secondary infertility in the general population. In most African nations, the prevalence of primary infertility surpasses 3%.[7] According to some research, secondary infertility is more prevalent than primary infertility. [8, 9] For women aged 20 to 44, secondary infertility varies from five % in Togo to twenty three % in the Central African Republic.[7] Primary infertility was shown to be more prevalent than secondary infertility in certain studies conducted in Turkey, Iran, and India. Those with secondary infertility are more likely to have structural abnormalities in the fallopian tubes and uterus than women with primary infertility.[10, 11, 12]

Infertility is an illness with financial consequences, clinical, and psychological, that affects 1.3 percent to 25.7 percent of couples throughout the world.[13] In the general community, secondary infertility is more prevalent than initial infertility. It is estimated that infertility affects 10 percent to 15 percent of the world's population. The recorded incidences in the United States and the United Kingdom are 15.5 and 6%, respectively. Sub-Saharan Africa has a high prevalence rate, with a 20-60% incidence rate.[14]

According to reports, infertility prevalence in Pakistan is 22%, with 4 % of those couples experiencing primary infertility.[15] Several diseases can lead to infertility, but the most prevalent causes of female infertility are tubal and uterine abnormalities.[16, 17] Obesity, drug and alcohol misuse, illnesses, a history of STDs, or issues during pregnancy are a few instances of known social, physical, and physiological reasons, while orders are unaccounted for.[5, 18, 19]

Over the years, several simple but efficient diagnostic tests and approaches have been developed to detect the probable reasons of infertility among married couples. Ultrasound, CT, MRI, hysteroscopy, laparoscopy, and hysterosalpingography are all commonly utilised procedures.[20] In cases of female infertility, hysterosalpingography is frequently the first test used. The procedure employs a contrast material to see the fallopian tubes and uterine cavity, allowing tubal and uterine diseases to be inferred.[5, 16, 21]

Although laparoscopy is currently the preferred diagnostic technique for tubal and pelvic causes of female infertility due to the direct view of morphological abnormalities and the ability to perform various treatment operations such as tubal ligation or resection in the event of hydrosalpinx, HSG, on the other hand, is a straightforward procedure that is less costly, has less difficulties than laparoscopy, provides useful information, and can be therapeutic at times.[22] The HSG is a useful technique for determining female infertility and is considered the gold standard test for determining tubal patency.[23]

METHODOLOGY

The prospective cross sectional study was carried out at Azeem Ultrasound & Digital X-Ray center, Gujrat. Data was collected in 4 months from February 2022 to May 2022. 90 patients were enrolled in the study with cost-benefit approach.[9, 12, 14] Women with acute vaginal or cervix infection, active bleeding and who were not willing to participate excluded from this study.

All patients who satisfied the inclusion requirements were consecutively registered after giving a written consent. The HSGs were performed between the 7th - 10th days of the menstrual period. Water soluble contrast agent was administered using a catheter placed in cervical canal. Films were taken as patient is in the supine position, antero-posterior and oblique views were taken when needed. The Spot films showed cervical canal, uterine cavity, fallopian tubes and peritoneal free spill. 10-15 ml of contrast media was used for patients on average.

RESULTS

Table 1: Showing descriptive statistics for age.

	N	Minimum	Maximum	Mean	Std. Deviation
Age (Years)	90	23	43	32.00	4.525

Table 2: Showing descriptive statistics for age group of infertile women.

Age Group	Frequency	Percent
18-29	28	31.1
30-35	40	44.4
36-40	17	18.9
>40	5	5.6
Total	90	100.0

Among 90 infertile women, there were 19 (21.1%) patients presented with primary infertility and 71 (78.9%) patients presented with secondary infertility.

Table 3: Showing descriptive statistics for status of infertility.

Infertility	Frequency	Percent
Primary	19	21.1
Secondary	71	78.9
Total	90	100.0

There were 52(57.8%) patients who were asymptomatic, 23(25.6%) were having irregular cycle, 16(17.8%) with abnormal discharge, 14(15.6%) patients were having dysmenorrhea, 6(6.7%) were presented with pelvic pain.

Table 4: Showing descriptive statistics for status of presenting symptoms.

Presenting Symptoms	Frequency present(%)	Absent(%)	Totat(%)
Asymptomtaic	52(57.8)	38(42.2)	90(100)
Irregular cycle	23(25.6)	67(74.4)	90(100)
Discharge	16(17.8)	74(82.2)	90(100)
Dysmenorrhea	14(15.6)	76(84.4)	90(100)
Pelvic pain	6(6.7)	84(93.3)	90(100)

According to analyzed data about Hysterosalpingography findings, 72 (80%) patients found to be normal. In 18 (20%) patients fallopian tubes blockage was diagnosed. Out of these 18, 8 (8.9%) were having right sided fallopian tube blockage, 8(8.9%) were having bilateral tubal blockage while only 2 (2.2%) showed left sided tube block.

Table 5: Showing descriptive statistics for fallopian tube blockage.

Fallopian Tube blockage	Frequency	Percent
Patent	72	80.0
Left sided blockage	2	2.2
Right side blockage	8	8.9
B/L blockage	8	8.9
Total	90	100.0

Table 6: Showing descriptive statistics for presence of hydrosalpinx.

Hydrosalpinx	Frequency	Percent
Patent	86	95.6
Left sided	2	2.2
Right side	1	1.1
Bilateral	1	1.1
Total	90	100.0

Table 7: Showing descriptive statistics for presence of uterine anomalies.

Uterine	Frequency	Percent
Normal Uterus	88	97.8
Small Infantile Uterus	2	2.2
Total	90	100.0

DISCUSSION

The cross-sectional study analyzed the HSG findings as observed in infertile women attended Azeem Ultrasound & Digital X-Rays center. Due to time constraints, target group accessibility, and a lack of resources, a consecutive sampling technique is utilized. Despite these drawbacks, the results mentioned below might be helpful in organizing a more extensive study on the subject of infertility and hysterosalpingography in general. Similar to other research, [24, 25] more patients in this study experienced secondary infertility than primary infertility. However, this is different from previous research that found primary infertility to be more prevalent.[14] The participants in this study had a mean age of 32, which was greater than that in earlier studies where the majority of infertile patients were between the ages of 18 and 29.[12, 14]

There were 52(57.8%) patients who were asymptomatic, 23(25.6%) were having irregular cycle, 16(17.8%) females with abnormal discharge, 14(15.6%) presented with dysmenorrhea and 6(6.7%) with pelvic pain before hysterosalpingography test was performed.

Prior research comparing HSG and laparoscopy demonstrated that HSG had a poor sensitivity of only 65 percent and a high specificity of 80 percent for diagnosing tubal patency.[10, 26, 27] Therefore due to its high specificity, making HSG a useful test for ruling out fallopian tube blockage.

In present study of 90 patients, 72(80%) had normal hysterosalpingography findings. A total of 18 patients (20% of all patients) exhibited abnormal results.

Most patients in this study (20%) were having fallopian tube occlusion which is similar to the previously reported study in Pakistan.[15] A larger proportion of tubal obstruction was present in the majority of individuals with secondary infertility, which is consistent with several earlier studies.[12, 14] The high incidence of fallopian tube blockage may be due to pelvic inflammatory disease which is reported to be most typical gynecological disorder that affects many women. [28]

CONCLUSION

Tubal blockage and hydrosalpinx were typical causes of infertility in the present study. Hysterosalpingography provides an easy and affordable source for the assessment of infertility reasons. A highly efficient technique for determining the tubal status of female infertility is hysterosalpingography

RECOMMENDATIONS

HSG is the most well-known first-line modality in our setting for evaluating the uterine and fallopian tubes patency. HSG is often straightforward to perform and may be completed as an out-patient procedure. The shape and patency of the fallopian tubes and uterine cavity are seen in HSG. It has long been a crucial approach for assessing intrauterine disease and tubal patency.

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