ORIGINAL ARTICLE

Hysterosalpingography (HSG) for Evaluation of Primary Infertility in Females

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ABSTRACT

Aim: To evaluate the common factors of female infertility using hysterosalpingography in a secondary care gynecology unit.

Methods: This case series was conducted in Fauji Foundation hospital Lahore within a duration of 9 months from Sep-2017 to June-2108. 90 female patients of primary infertility who presented in our hospital within the study period were selected. HSG was done in all patients in OPD of the hospital. HSG was done at 7th to 10th days of postmenstrual period. HSG findings were noted for each individual patient.

Results: Out of 90 patients, 65.5% patients were of age 18-30 years. There were 19(21.1%) having irregular cycle, 15(16.6%) females abnormal discharge, 14(15.5%) dysmenorrhea. On HSG, normal findings were found in 37(41.1%) patients. In 32(35.5%) patient's tubal blockage was diagnosed. Out of these 32, 17(18.9%) patients were having unilateral blockage, 15(16.6%) were having bilateral tubal blockage.

Conclusion: Tubal blockage, Hydrosalpinx and endometriosis were common causes of infertility in present study. HSG provides an easy and cheap source for evaluation of infertility factors.

Keywords: hysterosalpingography, female infertility, primary infertility

INTRODUCTION

Infertility is a common community problem and a major contributing factor of family disturbances. Infertility is diagnosed if the female is not conceiving after one year of unprotected routine sex with her counter partner[1]. Globally reported prevalence of infertility is 10% to 15%.[2] In USA and UK the reported incidence is 15.5% and 6% respectively[3]. In Pakistan, literature has reported 7% prevalence of infertility.[4] Prevalence is high in Sub-Saharan Africa with incidence of 20-60%[5].

About 15% of all female's experience infertility at some stage in their life. Disorder in fallopian tubes, cervix, uterus, or ovaries are common factors of infertility in females. Out of which fallopian tube abnormality has highest prevalence of 35% to 40%.[6,7]

Different imaging methods such as hysterosalpingography (HSG) and trans-vaginal ultrasound studies are routinely applied modalities to diagnose infertility factors. HSG is the most regularly utilized procedure for the assessment of uterine cavity i.e. anatomical variations from the norm, intrauterine injuries, intrauterine adhesions and tubal blockage[8]. HSG is a favorable procedure of being outpatient practice. It doesn't necessitate any anesthesia for the procedure, yet there are few drawbacks like radiation introduction, use of iodized contrast and the distress to the patient[9]. Still it is the safest and cheapest available technique to diagnosis of infertility. It can accurately detect tubal blockage, polyps, peritubal adhesions, hydrosalpinx, endometriosis and beading appearance[8,9].

Due to advancements in laparoscopic instrumentation, diagnostic laparoscopic (DLS) has become a gold standard for evaluation of female infertility[10] but in centers where DLS is not available yet HSG is a first line diagnostic test for these patients. In present study we evaluated the common factors of female infertility using HSG in a secondary care gynecology unit.

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METHODOLOGY

This case series was conducted in Fauji Foundation hospital Lahore within a duration of 9 months from Sep-2017 to June-2108. 90 female patients of primary infertility that presented in our hospital within the study period were selected. Informed consent was taken from all patients before including in study. Data regarding demographic information, menstrual history, medical records was taken. HSG was done in all patients in OPD of the hospital. HSG was done at 7th to 10th days of postmenstrual period. Roughly 5-10 ml water dissolvable contrast media was ingrained inside the uterine cavity under fluoroscopic control. HSG findings were noted for each individual pt.

Data analysis was manually, for qualitative variables frequency and percentages were calculated and mean and S.D. were calculated for quantitative variables.

RESULTS

Out of 90 patients, 65.5% patients were of age 18-30 years, 18.8% in age group 30-35 years and 15.5% patients of age 35-40 years. Mean marriage duration of included patients was 4.36±1.78 years (Table 1).

There were 37(41.1%) patients who were asymptomatic during presentation, 19(21.1%) were having irregular cycle, 15(16.6%) females presented with abnormal discharge, 14(15.5%) with dysmenorrhea, 4(4.4%) with pelvic pain and only 1(1.1%) patients with abnormal hair growth (Table 1).

On HSG, normal findings were found in 38(42.2%) patients. In 32(35.5%) patient's tubal blockage was diagnosed. Out of these 32, 17(18.9%) patients were having unilateral blockage, 15(16.6%) were having bilateral tubal blockage. Hydrosalpinx was found in 10(11.1%) patients, 7(7.8%) unilateral. Endometriosis was diagnosed in 6(6.7%) patients, and uterine anomaly in 4(4.4%) patient (Table 2).

Table 1. Demographic variables and Presenting Symptoms.

Variable	Value
Age groups (%)	
18-30 Years	59 (65.5%)
30-35 Years	17 (18.8%)
35-40 Years.	14 (15.5%)
Duration of Marriage (Years)	4.36±1.78 Years
Presenting Symptoms (%)	
Asymptomatic	37 (41.1%)
Irregular cycle	19 (21.1%)
Discharge	15 (16.6%)
Dysmenorrhea	14 (15.5%)
Pelvic pain	04 (4.4%)
Hair growth	1 (1.1%)

Table 2. Data of Hysterosalpingography (HSG) outcomes.

Variable	Value
Normal Findings	38 (42.2%)
Tubal Blockage	32 (35.5%)
Unilateral	***17 (18.9%)***
Bilateral	***15 (16.6%)***
Hydrosalpinx	10 (11.1%)
Unilateral	***7 (7.8%)***
Bilateral	***3 (3.3%)***
Endometriosis	6 (6.7%)
Uterine Anomaly	4 (4.4%)

DISCUSSION

In out setup, HSG is as yet the most widely recognized first-line modality to assess the uterine cavity and tubal patency. HSG is generally simple to perform and can be finished as an outpatient strategy. Utilizing a decent soporific convention with propofol sedation, the methodology is very good tolerated by patients. In some centers, HSG is done without sedation to reduce the cost of procedure[11].

HSG exhibits the morphology and patency of both the uterine channel and fallopian tubes. It has been for a long time an important methodology for appraisal of tubal patency and intrauterine pathology[12].

In present study, we included only patients with primary infertility. Most of our patients (65.5%) were in age group 18-30 years. While in a study by Ara et al. 52.6% patients presented with infertility were in age group 16-25 years[13]. In study of Kalima-Munalula et al. 50.6% females of infertility presented in age group 20-29 years[14].

In present study, common presenting symptoms were irregular cycle 21.1%, abnormal discharge 16.6% and dysmenorrhea in 15.5% patients. Common presenting symptoms in the study of Ara et al. were irregular cycle 21.1% patients, dyspaunea in 21.1%, and dysmenorrhea in 15.79% patients[13].

On HSG, normal findings were found in 38(42.2%) patients. In 32(35.5%) patient's tubal blockage was diagnosed. Out of these 32, 17(18.9%) patients were having unilateral blockage, 15(16.6%) were having bilateral tubal blockage. Hydrosalpinx was found in 10(11.1%) patients, 7(7.8%) unilateral. Endometriosis was diagnosed in 6(6.7%) patients, and uterine anomaly in 4(4.4%) patient.

Ramzan et al. found bilateral tubal block in 17.54% patients, unilateral in 15.79% patients, bilateral Hydrosalpinx in 7.02% patients and unilateral in 3.51% patients, uterine anomaly in 6.14% patients.[15] Akhtar et al. found Hydrosalpinx in 9% patients and tubal blockage in 17% patients[16]. While Nigam et al. found tubal blockage in 76% patients, bilateral in 62.50% patients and unilateral in 27.50% patients, Hydrosalpinx in 15.60% patients, endometriosis in 7.80% patients and adhesions in 1.56% patients[17]. So there is a varying prevalence of factors of infertility in different populations. As demonstrated by our study and supporting literature. So studies in individual regions should be conducted to determine the causes of infertility in different populations.

CONCLUSION

Tubal blockage, Hydrosalpinx and endometriosis were common causes of infertility in present study. HSG provides an easy and cheap source for evaluation of infertility factors.

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