PREGNANCY RATE AFTER DIAGNOSTIC HYSTEROSALPINGOGRAPHY IN INFERTILE WOMEN

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ABSTRACT

Background: hysterosalpingography is a diagnostic procedure and can be used as therapeutic procedure also.

Objective: to determine the pregnancy rate after diagnostic hysterosalpingography in infertile women.

Methodology: this study was conducted in Naseer Teaching Hospital. A total of 80 patients presented to gynae department for the complaint of infertility were included in the study. Water insoluble materials (Ethiodol) was used as a contrast medium for the Hysterosalpingography. All the Hysterosalpingography was done in the follicular phase of the menstrual cycle of women. Patient were followed up for six months after the procedure and the conception, if present, was confirmed by cessation of menstrual cycle and positive urine pregnancy test.

Result: Mean age was 28.5±5.05 years. On Hysterosalpingography 56 (70%) were having both tubes patent, 16 (20%) were having only one tube patent and 8 (10%) were having both tubes blocked. A total of 9 (11.25%) patients conceived after 6 months. comparing the age groups, infertility type and tube patency with the Pregnancy rate no one was associated significantly with the rate of Pregnancy rate (p value >0.05).

Conclusion: The study showed that there is one tenth chance of fertility after diagnostic hysterosalpingography in woman with infertility. Further studies with larger sample size are recommended for confirmations of our results.

Key words: infertility, hysterosalpingography, oil solubie contrast medium

INTRODUCTION

Infertility is an important social problem as a result of rapid urbanization and family nuclearization associated with it. It produces many social, personal and psychological impact on the life of a couple. the prevalence of psychological distress have been noted to be 37.3% in Pakistani infertile women[1]. Furthermore many Pakistani women don't have enough knowledge about the infertality[2].

Hysterosalpingography is a diagnostic procedure for the evaluation of patency of uterus and fallopian tube. It provides the radiographical evaluation of the path taken by an ova which included uterine cavity and fallopian tube. It makes us clear about the patency of tube and uterus and evaluate any pathology in this tract. It is done in the follicular phase of menstrual cycle. It a diagnostic procedure but have proven to be therapeutic also.

Clinical guidelines recommend the HSG in the form of tubal flushing[3,4]. A pregnancy rate of more than 10% have been noted after HSG over six months[5].

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Many studies have explain the possible pathophysiology behind this effect including mechanical flushing of plugs or debris in fallopian, increasement in ciliary motion or immunity related effect on endometrium[6-12]. The immunological phenomenon some people say, as the oil soluble material may enhanced immunity.

However, the mechanism shown above may not be the same over time or in different population. The present study is aimed to determine the Pregnancy rate after hysterosalpingogram in our local population of infertility. This study result will be used as a evidence on population catch by our hospital.

METHODOLOGY

A total of 80 patients presented to gynae department for the complaint of infertility from 16 March 16, 2019 to 15 march 2020 were included in the study. All those patients with not conceiving for more than 2 years with unprotected sex in these 2 years were consider infertile. All those with infertility, age of 18 to 45 years old, willing for consent were included in the study. All those with congenital anomalies of uterus, history of any type of uterine or abdominal surgery, those with serum creatinine of more than 1.5 mg/dl and those patient with allergy to contrast medium were excluded from the study. Consent was taken from all patients for the hysterosalpingography as a diagnostic procedure for the patency of uterus and fallopian tubes. Age was noted and patient was evaluated for type of infertility (primary and secondary). Water insoluble materials (Ethiodol) as a contrast medium for the Hysterosalpin-

gography. All the Hysterosalpingography was done in the follicular phase of the menstrual cycle of women. The instrument which gives least discomfort was used for the delivery of contrast medium.

By interpreting the result of hysterosalpingography patient were place and both patent tubes, one patent tube and both blocked tubes.

Patient were followed up for six months after the procedure and the conception, if present, was confirmed by cessation of menstrual cycle and positive urine pregnancy test.

Data was analysis with the help of statistical software SPSS version 23. Pregnancy rate after 6 months was calculated and was compared with the age, fertility type and tube patency.

RESULT

Mean age was 28.5±5.05 years. Most of the patients (67.5%) were in age group 25 to 35 years and most patient were having primary infertility (68.75%). On Hysterosalpingography 56 (70%) were having both tubes patent, 16 (20%) were having only one tube patent and 8 (10%) were having both tubes blocked. (see table 1).

After the Hysterosalpingography total of 9 (11.25%) patients conceived. comparing the age groups, infertility type and tube patency with the Pregnancy rate no one was associated with the rate of Pregnancy rate (p value >0.05). 5 patients of 9 who conceive were in age range of 26-35 years old. Most of the 9 patients, 7 were of primary infertility and in 8 out of 9 patients having both tube patent (table 2). All these were not significantly associated.

DISCUSSION

We evaluated the rate of pregnancy after 6months of the hysterosalpingography, and we found the result being 11.25%. this result was almost similar to the result presented by Dreyer et al[5].

We evaluated the only the oil soluble method of hysterosalpingography for the Pregnancy rate. The immunological theory showed the due to oil soluble material the immunity in the endometrium may be enhance. Our result may show a bit positive toward this hypothesis but study by shown that 25% of water-soluble group and 30% of oil soluble group have positive pregnancy rate with no significant difference[13]. However study by Alan et all showed significant difference in both these group (13% in water soluble and 29% in oil soluble contrast medium, p value <0.001)[14]. Another study showed that in long term Pregnancy rate both have no extra benefits but author concluded that the addition of water soluble to oil soluble material for hysterosalpingography shorten the time of conception[15].

We did not find any association of age, fertility type or finding of hysterosalpingography with the pregnancy rate. There was zero rate of pregnancy in patient with both tubes blocked which is also physiological valid point. There is less data available regarding these variables. However Alper et al found that there is no significant difference in the type of diagnosed infertility on pregnancy rate[13].

The limitation of our study included the small sample size of 80 patients so the many test may have insignificant value for production of statistically significant difference like only 1 patient conceived in those with one tube patent. Also, the pregnancy rate after hysterosalpingography as find in our study may be natural occurrence and my have not association with hysterosalpingography.

CONCLUSION

Table 1: Baselines and pregnancy rate

		Count	Percentage
Age Groups	≤25 years	21	26.25%
	26-35 years	54	67.50%
	>35 years	5	6.25%
Infertility	Primary infertility	55	68.75%
	Secondary infertility	25	31.25%
Tube patency	Both tubes patent	56	70.00%
	One tube patent	16	20.00%
	Both tubes blocked	8	10.00%
Pregnancy rate	Conceived	9	11.25%
	Not conceived	71	88.75%

Table 2: Comparison of age, type of infertility and tube patency with pregnancy rate

		Pregnancy rate				P value
		Conceived		Not Conceived		
		Count	Percentage	Count	Percentage	
Age Groups	≤25 years	3	3.75%	18	22.50%	0.673
	26-35 years	5	6.25%	49	61.25%	
	>35 years	1	1.25%	4	5.00%	
infertility	Primary infertility	7	8.75%	48	60.00%	0.524
	Secondary infertility	2	2.50%	23	28.75%	
Tube patency	Both tubes patent	8	10.00%	48	60.00%	0.239
	One tube patent	1	1.25%	15	18.75%	
	Both tubes blocked	0	0.00%	8	10.00%	

The study showed that there is one tenth chance of fertility after diagnostic hysterosalpingography in woman with infertility. This chance does not depend upon the age or type of infertility. Further studies with larger sample size are recommended for confirmations of our results.

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