ORIGINAL ARTICLE

Frequency of Hyperprolactinemia in Female Infertility

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ABSTRACT

Aim: To evaluate the frequency of hyperprolactinemia in female infertility.
Study design: Descriptive cross sectional study
Place and duration of study: Department of Gynae and Obs. Fatima Memorial Hospital, Lahore from 3rd January 2011- 2nd January 2012.
Methodology: Three hundred women with the history of infertility presenting in OPD were enrolled. Detailed history was taken regarding age, parity, duration of infertility, menstrual irregularities and galactorrhea.
Results: Ninety four **(**31.33%) patients between 18-25 years. The duration of infertility was recorded in 176(58.67%) between 1-5 years, 93(31%) between 5-10 years and only 31(10.33%) had >10 years of duration. There were 178(59.33%) had primary infertility and 122(40.67%) had secondary infertility. The hyperprolactinemia in infertility revealed in 113(37.67%) patients.
Conclusion: The frequency of hyperprolactinemia is high among women with infertility.
Key words: Infertility, Hyperprolactinemia, Frequency

INTRODUCTION

Infertility is defined as inability to conceive after one to two years of regular and unprotected intercourse. Its prevalence is around 12-14% and may be due to either male factors or female factors. It has very important medical, economic and psychological implications[1]. According to one international study, among in fertile women, 60% had primary infertility and 40% had secondary infertility[2].

Hyperprolactinemia which is raised serum prolactin level has important implications in female reproductive functions. It causes amenorrhea, oligomenorrhea, anovulation, luteal phase insufficiency and galactorrhea leading to infertility. According to one international study, prevalence of hyperprolactinemia was 43% and 21% in primary and secondary infertility respectively[1].

In male and female, severe hyperprolactinemia directly depresses the gonadal activity causing infertility. There is ovulatory dysfunction with hyperprolactinemia with or without space occupying lesion leading to infertility[3].

The prevalence of hyperprolactinemia is 0.4–5%, being about 9% in women with amenorrhea, 25% with galactorrhea[4]. Women with hyperprolactinemia are frequently prescribed Dopamine agonists to reduce and normalize prolactin levels and to restore normal menses with the objective of collecting biochemical consequences of hormonal excess. These medications are easily available and studies are available which show their beneficial effects on normalization of serum prolactin level and infertility treatment. A recent international study showed pregnancy rate of 81.7% in patients with increased prolactin levels who were treated[5].

The proportion of females coming to our hospital with infertility is quite high and it is a very important social problem in our set up. Majority of these have menstrual disturbances due to anovulation, some have galactorrhea and some with unexplained infertility. The usual practice is to investigate them for hyperprolactinemia only if they have galactorrhea and not otherwise. It is done only after all workup when no other cause for female infertility is found. The prevalence of hyperprolactinemia varies in different populations. According to one international study, prevalence of hyperprolactinemia and/or galactorrhea was higher in Iraq 60%[6] and lower in Hyderabad, India 41%[7] this variable prevalence may be due to different stress level of infertility patients in different areas. According to the best of my knowledge, there is no local study available regarding specifically to frequency of hyperprolactinemia in female infertility, so, further studies and long follow up are necessary to validate variables prevalence of hyperprolactinemia among population of our different areas. So, I want to study large population size to determine the relationship of hyperprolactinemia and infertility and its prevalence in our population.

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MATERIAL AND METHODS

This descriptive cross sectional study was carried out at Fatima Memorial Hospital, Lahore from 3rd January 2011-2nd January 2012 and comprised 300 females. All females with history of primary infertility, history of secondary infertility were included. Females with polycystic ovarian disease and tubal factors were excluded. A total of 300 women with the history of infertility presenting in OPD were enrolled. Detailed history was taken regarding age, parity, duration of infertility, menstrual irregularities and galactorrhea. After excluding tubal factors and polycystic ovarian disease, the serum prolactin level of women were checked from Hospital Laboratory and recorded in pre-designed proforma to determine frequency of hyperprolactinemia in infertile females. The data was entered and analyzed through SPSS-20.

RESULTS

The mean age was 26.45±6.87 years. There were 176(58.67%) women between 1-5 years, 93(31%) between 5-10 years and 31(10.33%) had >10 years of duration of infertility, 178(59.33%) women had primary infertility and 122(40.67%) had secondary infertility. The hyperprolactinemia in infertility was 113(37.67%) while 187(62.33%) had no hyperprolactinemia. The galactorrhea in infertility was found in 21(7%) while 279(93%) had no galactorrhea (Table 1).

Out of 178 cases of primary infertility, 81(45.51%) had hyperprolactinemia while 97(54.49%) had no hyperprolactinemia and 122 cases of secondary infertility, 32(26.27%) had hyperprolactinemia and 90(73.77%) had no hyperprolactinemia (Table 2).

Among 178 cases of primary infertility, 11(6.18%) have galactorrhea while 167(93.82%) had no galactorrhea and 122 cases of secondary infertility, 19(15.57%) had galactorrhea and 103(84.43%) had no galactorrhea (Table 3).

Table 1: Descriptive statistic of the patients (n=300)

Variable	No.	%
Age (years)		
18 – 30	173	
31 – 40	125	
> 40	2	
Duration of infertility (years)		
1 – 5	176	58.67
5 – 10	93	31.0
> 10	31	10.33
Type of infertility		
Primary	178	59.33
Secondary	122	40.67
Hyperprolactinemia		
Yes	113	37.67
No	187	62.33
Galactorrhea		
Yes	21	7.0
No	279	93.0

Table 2: Comparison hyperprolactinemia according to type of infertility (n=300)

Type of infertility	Hyperprolactinemia	
	Yes	No
Primary	81 (45.51%)	97 (54.49%)
Secondary	32 (26.27%)	90 (73.77%)

Table 3: Comparison of galactorrhea according to type of infertility (n=300)

Type of infertility	Hyperprolactinemia	
	Yes	No
Primary	11 (6.18%)	167 (93.82%)
Secondary	19 (15.57%)	103 (84.43%)

DISCUSSION

Prolactin, a hormone secreted by the pituitary gland, plays a central role in a number of reproductive functions. This aspect is important for good production of milk following childbirth. An excess of prolactin or hyperprolactinemia is a commonly encountered clinical condition[8].

Literature demonstrates that hyperprolactinemia and/or galactorrhea was higher in Iraq 60%[6] and lower in Hyderabad, India 41%[7]. This variable prevalence may be due to different stress level of infertility patients in different areas. Unfortunately, no local study available regarding specifically to frequency of hyperprolactinemia in female infertility, so, further studies and long follow up was necessary to validate variables prevalence of hyperprolactinemia among population of our different areas. However, this study was planned to determine the relationship of hyperprolactinemia and infertility and its prevalence in our population.

The results of the study reveal that majority of the patients i.e. 49(31.33%) were between 18-25 years with mean age was 26.45±6.87 years, 176(58.67%) had 1-5 years of duraiton of infertility, 93(31%) had 5-10 years and only 31(10.33%) had >10 years of duration, 178(59.33%) as primary and 122(40.67%) as secondary, hyperprolactinemia in infertility revealed in 113(37.67%) while 187(62.33%) had no hyperprolactinemia.

Our findings regarding frequency of hyperprolactinemia are in agreement with Prathibha et al[7] recorded 41% of the patients having hyperprolactinemia in infertile patients, while these findings are in contrast with Razzak and Wais[6] recorded this frequency in 60% of the infertile women which is more higher than our study.

In a group of referred infertile women, Kredentser and colleagues[9] evaluated the incidence of hyperprolactinemia and reported that 19.5% had elevated serum prolactin levels, 4.4% had no irregular menstrual activity or galactorrhea in patients with hyperprolactinemia. This study showed that infertile patients are commonly affected by hyperprolactinemia, particularly when galactorrhea and/or menstrual dysfunction is also present, is common findings regarding infertile patients such as galactorrhea and hyperprolactinemia in infertile patients as well as the frequency of hyperprolactinemia in infertile women in contrast may be due to racial/demographical differences because Kredentser et al[9] conducted this study in European population and Razzak and Wais[6] determined in subcontinental population.

However, with the practice of routinely ordering serum levels of prolactin in infertility patients we may be able to establish a relationship between hyperprolactinemia and infertility with no wastage of time which can easily be treated with the course of dopamine agonists. This will greatly decrease the anxiety as well as financial and social stress on this very much distressed group of our community and will help in improving this very important social problem.

CONCSLUSION

The infertility in women is high in hyperprolactinemia. It is also recommended that all women with infertility should be screened for hyperprolactinemia. However, every installation should also be monitored to know the frequency of the problem.

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