

Frequency of Hyperprolactinemia in Female Infertility

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ABSTRACT

Aims: to determine the frequency of hyperprolactinemia in female infertility.

Study design: It was a cross sectional study.

Duration: 13th February 2010 to 13th August 2010.

Settings: Department of Obstetrics & Gynaecolog, PNS Shifa Hospital, Karachi.

Results: Out of 100 cases 30(30%) between 16-25 years, 26(26%) between 26-30 years, 21(21%) between 31-35 years, 19(19%) between 36-40 years and only 4%(n=4) were between 40-45 years of age, 93(93%) between 1-10 years and only 7(7%) had >10 years of duration, frequency of type of was recorded 56(56%) as primary and 44(44%) as secondary infertility, frequency of hyperprolactinemia in infertility revealed in 39(39%) while 61%(n=61) had no hyperprolactinemia, out of 41 cases of hyperprlactinemia, galactorrhoea was recorded in 11(26.83%) and 30(73.17%) had no galactorreha.

Conclusion: Frequency of hyperprolactinemia is high among women with infertility

Keywords: Female infertility, hyperprocalctinemia

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 implications¹. The literature illustrates that among fertile women, 60% had primary infertility and 40% had secondary infertility².

It is a source of great social stress, hence, it needs to be evaluated and thoroughly investigated to prevent delay in proper management. In female infertility, untreated infections, anovulation and endometriosis are major causes in our social setup.

Hyperprolactinemia which is raised serum prolactin level has important implications in female reproductive functions. It causes amenorrhoea, oligomenorrhoea, anovulation, luteal phase insufficiency and galactorrhoea leading to infertility. According to one international study, prevalence of hyperprolactinemia was 43% and 21% in primary and secondary infertility respectively¹.

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 infertility³.

The prevalence of hyperprolactinemia is 0.4–5%, being about 9% in women with amenorrhoea, 25% with galactorrhoea.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 bio-chemical 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 treated⁵.

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 galactorrhoea and some with unexplained infertility. The usual practice is to investigate them for hyperprolactinemia only if they have galactorrhoea and not otherwise. It is done only after all workup when no other cause for female infertility is found. With the practice of routinely ordering serum levels of prolactin in infertility patients we will 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. The prevalence of hyperprolactinemia varies in different populations.

There is no local study available regarding 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

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determine the relationship of hyperprolactinemia and infertility and its prevalence in our population.

MATERIAL AND METHODS

A total of 100 women with history of primary and secondary infertility were included in the study while Polycystic ovarian disease. It is endocrinological disorder having two out of three criteria: 1) Amenorrhoea /Oligomenorrhoea, 2) Hyperandrogenism, 3) Ultrasound evidence of polycystic ovary, Ovarian stroma >10 mm³ 12 or more follicles of < 10 mm size) (by history, clinical examination, bio-chemical test and ultrasound), Tubal factors (by tubal testing through Hysterosalpingography and Laparoscopy) were excluded from the study. Detailed history of the females 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 collected data was analysed in SPSS 16.0. The qualitative variables including hyperprolactinemia in primary and secondary infertility were presented as frequency and percentage.

RESULTS

Age distribution of the patients was done which shows 30(30%) between 16-25 years, 26(26%) between 26-30 years, 21(21%) between 31-35 years, 19(19%) between 36-40 years and only 4(4%) were between 40-45 years of age, mean and sd was calculated as 27.21±4.23 years (Table 1).

Duration of infertility was recorded as 93(93%) between 1-10 years and only 7(7%) had >10 years of duration (Table 2). Frequency of type of was recorded 56(56%) as primary and 44(44%) as secondary infertility (Table 3). Frequency of hyperprolactinemia in infertility revealed in 39(39%) while 61(61%) had no hyperprolactinemia (Table 4). Out of 41 cases of hyperprolactinemia, galactorrhea was recorded in 11(26.83%) and 30(73.17%) had no galactorrhea (Table 5).

Table 1: Age distribution (n=100)

Age (in years)	=n	%age
16-25	30	30
26-30	26	26
31-35	21	21
36-40	19	19
40-45	4	4

Mean±SD: 27.21±4.23

Table 2: Duration of infertility (n=100)

Duration (years)	=n	%age
1-10	93	93
>10	7	7

Table 3: Types of infertility (n=100)

Type of infertility	=n	%age
Primary	56	56
Secondary	44	44

Table 4: Frequency of hyperprolactinemia in infertility (n=100)

Hyperprolactinemia	=n	%age
Yes	39	39
No	61	61

Table 5: Frequency of galactorrhea in hyperprolactinemia (n=41)

Galactorrhea	=n	%age
Yes	11	26.83
No	30	73.17

DISCUSSION

The results of the study reveal that hyperprolactinemia in infertility revealed in 39(39%) while 61(61%) had no hyperprolactinemia.

Our findings regarding frequency of hyperprolactinemia are in agreement with Prathibha D who recorded 41% of the patients having hyperprolactinemia in infertile patients⁶, while these findings are in contrast with Razzak AH⁷ who recorded this frequency in 60% of the infertile women which is higher than our study.

Kredentser JV and colleagues⁸ determined the incidence of hyperprolactinemia in a group of referred infertile women and recorded that 19.5% had elevated levels of serum prolactin, 4.4% patients with hyperprolactinemia had neither abnormal menstrual function nor galactorrhea. This study demonstrates that hyperprolactinemia is a common finding in an infertile population, more so when galactorrhea and/or menstrual dysfunction is also present, the findings regarding common findings of infertile patients i.e., galactorrhea and hyperprolactinemia in infertile patients but also in contrast with regards to frequency of hyperprolactinemia in infertile women the reason behind this contrast may be due to racial/demographical differences because Kredentser JV conducted this study in European population and Razzak AH⁷ 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.

CONCLUSION

The frequency of hyperprolactinemia is high among women with infertility. So, it is recommended that every woman who present with infertility, should be sorted out for hyperprolactinemia. However, it is also required that every setup should have their surveillance in order to know the frequency of the problem.

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