

Causes of male infertility in Saurashtra region, Gujarat

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ABSTRACT

Background: Infertility is a concern of 10 to 12 % of the couple and among them 40 % of the situations; the man contribute significantly to the fertility disorder. **Objectives:** To study the causes of Male infertility in Saurashtra region. **Material and methods:** In the present study 100 cases of male infertility under investigation were studied during the year of 2003- 2004. All the cases were from OPD patients of Guru Gobind Singh Hospital, Jamnagar. **Results:** In current study 8% were infertile due to azoospermia, 29% were due to oligospermia, 39% due to asthenozoospermia. **Conclusion:** From present study we can conclude that factors like trauma, exposure to high temp, tuberculosis, may lead to testicular atrophy, which can cause infertility and various conditions like Varicocele, undescended tests, inflammation can lead to hypospermatogenesis. Smoking or tobacco chewing for longer periods may cause infertility by changing semen quality.

Keywords: azoospermia, Infertility, Male infertility, oligospermia

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INTRODUCTION

The goal of estimating correctly a man's fertility potential has long been of great interest, to the researchers. The term 'male infertility' does not constitute a defined clinical syndrome but rather a collection of different conditions exhibiting a variety of etiologies and varying prognosis. ¹

Infertility is a concern of 10 to 12 % of the couple and among them 40 % of the situations; the man contribute significantly to

the fertility disorder². MacLeod and Gold, and Eliasson had laid the scientific basis of conventional analysis of spermatozoa. The technique, recommended by them still considered as the reference for more advance method³ Conventional semen analysis include measurement of particular aspects of spermatozoa such as count, motility, morphology ; quantification of non - spermatozoid cells.

Objectives of study: To study the causes of Male infertility in Saurashtra region.

MATERIALS AND METHOD

In the present study 100 cases of male infertility under investigation were studied during the year of 2003- 2004. All the cases were from OPD patients of Guru Gobind Singh Hospital, Jamnagar. In all 100 patients, semen samples were collected in the OPD laboratory side room in a clear, dry, biologically inert container by masturbation, after 3 days of abstinence. After liquefaction, of average 30 minute in all samples, physical characteristic, microscopic analysis was done.^{4, 5, 6}. Out of all 88 case were of primary infertility and 12 cases were of secondary infertility. All the cases were studied in detail and history and clinical finding were recorded.

OBSERVATIONS AND RESULTS:

1.Age distribution : There were 11 (11%) cases between age group 20-25 years, 39(39%) cases between age group 25-30 years, 33 (33%) cases between age group 30-35 years, 13 (13%) cases between age group 35-40 years,4 (4%) cases was of above 40 year.

2. Correlation with past History: Past history of trauma to testis was present in 8 (8%) case and 5 (5%) patient has occupational exposure to high temperature daily. Many of the patients studied were smokers of having habit of

chewing tobacco. 8 (8%) cases were having history of smoking 15 to 20 bidis or cigarettes /day since more than five years.6 (6%) cases were having history of chewing tobacco since four to five years. 3 (3%) patients was having positive history for mumps in childhood.

3. Clinical distribution of cases: On applying the clinical criteria of less than of equal to 4 cms. There were 5 (5%) cases of small testis, and 5 (5%) cases of undescended testis, 2 (2%) cases of bilateral varicocele, 1 (1%) case of hydrocele and in one case we found pus discharge from urethra suggesting STD.

SEMEN PERAMETERS

(i) Volume :Considering 1.5 – 4.5 ml of semen as normal, more than 4.5 ml as a high and less than 1.5 ml low volume in our study we observed that , there were 80 (80%) cases with normal, 7(7%) cases with high volume and 13 (13%) cases with low volume.

(ii) Liquefaction: In present study, in all cases, semen specimen was liquefied within 30-45 minutes. If liquefaction does not occur within normal time period it may suggest functional disturbance of the prostate.

(iii) Sperm Count : From finding we can say that 8 (8%) cases were having no sperm in there semen specimen suggesting azoospermia, while 29 (29%) case were having sperm count < 20 millions /ml of semen sample suggesting

oligospermia. It is evident from above study that out of all patient complaining of infertility, 37(37%) cases having abnormality in their sperm count.

(iv) Percentage of motile sperm: Out of all case, total 42 cases having motility less than 50% suggesting Asthenozoospermia, out of which 20 (20%) cases having motility less than 20%, 18 (18%) cases having motility between 20 to 40%, and 5(5%) cases having motility between 40 to 50%. If we consider case above 50% motility, there are 17(17%) cases having motility between 50 to 60 %, 22(22%) cases having motility between 60 to 80 %, 10(10%) cases having motility more than 80 %.

(v) Grade of motility

There were 22(22%) case with grade – a, 38(38%) case with grade – b, 28(28%) case with grade – c, 04(04%) case with grade – d motility. It indicates that large proportion of cases have motility of grade b and c, which constitute about 66 (66%) cases. while normal motility Grade –a present only in 22 (22%) case.

DISCUSSION

In study of Paul B. Marshburn et al⁷, detected that smoking was associated with diminished semen volume, coffee drinking was correlated with increase in sperm density and

percentage of abnormal forms, while Alcohol consumption appeared to have no effect. The effects of smoking on volume and coffee drinking did not appear to be dose dependent.

While in the study carried out by Henry J.M. et al⁸ state that factors such as smoking and alcohol consumption do not seem to play a pivotal role in the etiology of poor semen quality, but a pattern of excessive alcohol consumption may decreases further an already low percentage of sperm with normal morphology.

In present study, all the 08(08%) cases of smoking were having low volume of semen on semen analysis whereas out of 06(6%) cases with history of tobacco chewing 03(03%) had low volume and 03(03%) had normal volume on semen analysis and case with history of alcohol consumption, 2(2%) had low and 8 (8%) had normal. semen parameter.

Looking at the grade of Motility of sperms, in present study, maximum case were of grade - b, motility, which is considered good for fertility function. This was seen with sperm counts ranging from less than 5 million /ml to even more than 50 million/ml. Since the human eye is more attracted to motile sperms the judgment of grade and percent motility by visual method can be fallacious.

Therefore automated methods have now come into existence which is more accurate. Probably non availability of phase contrast microscopy can also be a contributory factor to these results. Thus, the grade, as well as percent motility can have subjective variations and thus loses its significance when only a visual assessment of motility is carried out.

CONCLUSION

From above study we can conclude that factors like trauma, exposure to high temp, tuberculosis, may lead to testicular atrophy, which can cause infertility and various conditions like Varicocele, undescended tests, inflammation can lead to hypospermatogenesis. Smoking or tobacco chewing for longer periods may cause infertility by changing semen quality. In current study 8% were infertile due to azoospermia, 29% were due to oligospermia, 39% due to asthenozoospermia.

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