

Association of Female Infertility with Chlamydia Trachomatis Infection- A Hospital Based Study

¹Nivedita Prashar, Resident, Department of Obstetrics and Gynaecology, GMC, Jammu

²Nikita Gandotra, Resident, Department of Obstetrics and Gynaecology, GMC, Jammu

³Aakriti Manhas, Consultant, Department of Obstetrics and Gynaecology, GMC, Jammu

⁴Nishu Bhushan, Resident, Department of Obstetrics and Gynaecology, GMC Jammu

Corresponding Author: Nivedita Prashar, Resident, Department of Obstetrics and Gynaecology, GMC, Jammu

Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Background: Infertility is defined as one year of unprotected intercourse without pregnancy. It may be primary or secondary. Chlamydia Trachomatis is the most prevalent bacterial sexually transmitted infection, so it causes major burden with subsequent impact on fertility.

Material And Method: A total of hundred infertile patients attending OPD were taken as cases and a total of hundred patients with term pregnancy were taken as controls. A series of investigations were carried out in them including antibody testing. Results were interpreted by antibody index as negative, equivocal or positive.

Results: Out of infertile patients, 67% were in 26-30 years of age. 71% had primary infertility and 29% had secondary infertility. Majority of the patients were asymptomatic in both the groups. 45.2% patients had pain lower abdomen in symptomatic group. 36% had tubal block. IgA, IgM and IgG antibodies were present in 9%, 15% and 24% of patients respectively.

Conclusion: Infertility poses a great physical, emotional and mental burden to the couple and society as a whole...so treatable causes have to be screened and treated.

Keywords: Infertility, Chlamydia trachomatis, Antibodies

Introduction

Infertility is defined as one year of unprotected intercourse without pregnancy. It may be primary or secondary. Chlamydia trachomatis (CT) is the most prevalent bacterial sexually transmitted infection with the highest incidence in 15-24 years old.¹ Chlamydia Trachomatis can cause substantial burden of disease in women with pelvic infections and subsequent ectopic pregnancy and infertility. Chlamydia is transmitted through infective secretions only. About 75% of women with Chlamydia show no symptoms.² In symptomatic women, symptoms include vaginal discharge, burning sensation during urination, irritation of area around vulva and vagina, pain lower abdomen and abnormal uterine bleeding (AUB).³ The major concern of infertility due to CT is that it represents a preventable cause of infertility, if treated early. The rate of pregnancy exceeds 60% after patients are adequately treated with antibiotics.⁴ The present study was conducted with an aim to find out the association of Chlamydia trachomatis with female infertility in our population set up.

Material and Methods

The present study was conducted in the postgraduate department of Obstetrics and Gynaecology, Smgs Hospital over a period of one year with effect from January, 2019 to December, 2020. A total of hundred females attending

Gynae Out Patient Department with history of infertility, that may be primary or secondary; were selected as cases. Routine investigations were carried out in them including Ultrasonography, Thyroid profile, Prolactin levels, Hystero salpingography, serum for antibodies IgA, IgM, IgA against Chlamydia Trachomatis and Semen analysis of husband. A total of hundred patients with term pregnancy attending SMGS Hospital were also taken as controls and their samples were also taken for Chlamydia antibody testing. Results were interpreted as Antibody Index(<9 negative ,9-11 equivocal,>11 positive). Anti Chlamydia antibodies were measured using ELISA.

Results

The present study was conducted in the post graduate department of obstetrics and gynaecology from January, 2019 to December,2020. Hundred infertile women were taken as cases and hundred women were taken as controls randomly.

Out of hundred infertile patients,67%were in 26-30 age group.71% had primary infertility and 29% had secondary infertility.20% infertile patients had previous conception beyond the period of viability and 9% had previous abortions. Majority of patients were asymptomatic in both the groups. In symptomatic patients,pain abdomen was the commonest symptom followed by discharge per vaginum(45.2% and 28.72% respectively). Out of 100 cases, 36% had tubal block. IgA antibodies were present in 9% of cases and in 3% of controls which is statistically not significant.IgM antibodies were present in 15% of cases as compared to 4% of controls which was statistically significant. IgG antibodies were present in 24% of cases and 3% of controls ,which was also statistically significant. Out of 24 IgG seropositive patients, 18 had tubal block and out of 15 IgM seropositive patients, 5 had tubel block. The results are statistically significant.

Discussion

Chlamydia trachomatis, an obligate intra cellular organism, is one of the most common sexually transmitted infection⁵. The reported incidents of chlamydial infection has increased in the passed ten years ,some of which may be accounted for thorough increased testing and availability of more sensitive tests, but may also reflect increase in risk taking behavior. Chlamydia trachomatis IgG antibodies with tubal factor infertility and research have shifted towards how clinically useful antibody testing is in the infertility workup⁶.

In present study , 67 % of infertile patients were in 26-30 years age group : which was also observed in study done by Malik A et al⁷. In our study , prevalence of primary infertility (71%) was more than secondary infertility (29%) and out of 29 cases , 9 had history of abortion and rest 20 were either para 1 or para 2. Result was concordant with Mishra et al⁸ and Awasthi et al⁹. Majority of the patients were asymptomatic in both the groups. The common symptom in symptomatic group was pain lower abdomen and discharge per vaginum. Malik et al⁷ also revealed similar findings.in present study out of 100 patients ,36% had tubal block ,similar results were observed by Peivandi S et al¹⁰. Chlamdia tricomitis causes tubal damage by causing a low grade immune response, which attacs and destroys the host cells and also cytolysis of host cells.¹¹ In present study,IgA antibody levels were almost same in both the groups. 15% of infertile patients were IgM positive as compared to 4% of controls; which was statistically significant. Similar results were obtained by Khilstrom E et al.¹² In present study, IgG antibody were present in 24% of cases as compared to 3% of cases, which was also statistically significant. Results are compareable to Idahl A et al.¹³

Conclusion

Infertility is more so an emotional and mental trauma for a couple, which drains them completely. Its mental stress increases day by day and results of diagnostic and therapeutic modalities decreases propotunately. So,aggressive efforts should be carried out to find out any treatable cause and sexually transmitted infections is one of them. Chlamydia trachomatis is a major contributor of this....it should be diagnosed and treated at the earliest.

References

1. Den Heijer CDJ,et al. Clin. Infect. Dis.2019
2. Wilson JS, et al. A systemic review of the prevalence of Chlamydia trachomatis among European women.Hum Reprod Update 2002;28:385-394.
3. Hillis, Susan et al. (1995). Impact of a Comprehensive Chlamydia Prevention Programme in Wisconsin . Family Planning Prespective. 27:108-111.
4. Tilend's Operative Gynaecology 9th edition,508,2003.
5. Adams E J et al. Chlamydia Trachomatis in the United Kingdom: A systematic review and analysis of prevalence. Sex Transm Infect;80(5);354-62.
6. Claman P, Honey I,et al . The presence of serum antibody to the chlamydial heat shock protein (CHSP60) as a diagnostic test for tubal factor infertility. Fertil steril 1997;65:501-4.
7. Malik A, Jain S,Hakim S et al.Indian J Med Res 123,June 2006,pp 770-775.
8. Mishra R,Baveja R, Gupta V et al.Prolactin levels in infertility with menstrual irregularities. Obstet Gynecol 2002;52(6):40-43
9. Avasthi K, Kour J,Gupta S. Hyperprolactinemia and its correlation with hypothyroidism and the empirical use of armour thyroid. Altern Med Rev 2004;9:157-179.
10. Peivandi S et al.IJFS,Vol.3 No.3, Nov-Dec 2009;146.
11. Laverda D, Byrne G. Use of monoclonal antibodies to facilitate identification , cloning and purification of Chlamydia trachomatis hsp10.Microbiol.1997 May;35(5):1209-1215.
12. Khilstrom E, Lindgren R, Ryden G et al. Antibodies to Chylamdia trichomatis in women with infertility, pelvic inflammatory disease and ectopic pregnancy. Eur J Obstet gynaecol Reprod Biol. May-Jun;35(2-3);199-204,1990.
13. Idahl A et al. New series No 1255 ISSN 0346-6612 ISBN 978-91-7264-759-6.

How to citation this article: Nivedita Prashar, Nikita Gandotra, Aakriti manhas, Nishu Bhushan, “Association of Female Infertility with Chlamydia Trachomatis Infection- A Hospital Based Study”, IJMACR- March - April - 2020, Vol – 3, Issue -2, P. No. 161 – 163.

Copyright: © 2020, Nivedita Prashar, et al. This is an open access journal and article distributed under the terms of the creative commons attribution noncommercial License 4.0. Which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.
