

Prevalence of *Chlamydia trachomatis* immunoglobulin G antibodies in infertile women attending an *in vitro* fertility center

Sir,
Chlamydial infections run as an insidious and chronic course, thereby causing irreversible tissue damage in unidentified and untreated cases. Being asymptomatic, these infections have severe ramifications for the reproductive health of women leading to the long-term complications like infertility. Screening women for *Chlamydia trachomatis* are highly desirable in developing countries.^[1,2]

The serum samples of 111 infertile women patients of reproductive age group seeking help

in the *In vitro* fertility center of our multi-specialty center were subjected to enzyme linked immunosorbent assay (ELISA) (Calbiotech, Inc.)^[3] for detection of immunoglobulin G (IgG) antibody. The sensitivity of the test was 93.8% and specificity was 92.2%. All assays and calculations were performed according to the manufacturer's instructions.

The aim of this study was to highlight the importance of serological, noninvasive diagnostic tool as well as to rule out *Chlamydia* as one of the causes of infertility. Of the 111 serum samples considered for the study, five (4.5%) samples were found to be positive and seven (6.3%) samples were borderline positive by ELISA IgG antibody detection test. On retesting after 1-month, out of five positive samples, four samples showed a 4-fold rise in titer, whereas one sample showed a reduction in titer giving a borderline positive result. This may be because the patient would have been in the peak of infection during the initial testing and the IgG titer would have reduced during the second testing. Out of the seven borderline positive samples, five samples

showed a rise in antibody titer while two samples showed negative results. This indicated that these two samples had produced false positive results during the initial testing. The overall sero-positivity detected after paired sera analysis was 9.0%, almost similar to other studies.^[4,5]

IgG antibody detection is an effective and noninvasive tool for detection of *Chlamydia* and a more viable option than other techniques in India. Our results were found to be consistent with the studies made by Moaiedmohseni (5% of all patients and 10% of infertile women), Dwibedi *et al.* (7%) and Demetra *et al.* (ranging from 3-9%).^[2,4,5]

Serological tests are useful in identifying chlamydial etiology in ascending upper genital tract infections where direct and specific tests fail to identify the organism. Noninvasive serological testing reduces the risk of introducing infections to the upper genital tract, thereby avoiding instrumentations such as hysterosalpingography and laparoscopy. Paired sera analysis is useful in confirming the positive results and avoiding false positive results.

Therefore, to conclude, IgG antibody detection is an effective and noninvasive tool for the detection of *Chlamydia* and a more viable option than any other techniques in India. *C. trachomatis* should be preferred as a routine baseline investigation in infertility clinics.^[4] Screening of infertile women for *C. trachomatis* is recommended for early therapeutic options.

Acknowledgment

The authors would like to thank the Chairperson and Dean of the institute for providing laboratory facilities and a healthy working atmosphere during the study period. The authors are also thankful to the technical staff of the institute for providing the necessary helping hand during the endeavor.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Trupti Bajpai, Bhatambare S. Ganesh,
Gagrani Neelesh¹

Department of Microbiology, Sri Aurobindo Institute of
Medical Sciences Medical College and PG Institute, Indore,

¹Department of Pediatrics, Gagrani Hospital, Dewas,
Madhya Pradesh, India

Address for correspondence:

Trupti Bajpai, Asst. Prof.,
Department of Microbiology, Sri Aurobindo Institute of Medical
Sciences Medical College, MR-10 Crossing, Indore,
Ujjain Road, Madhya Pradesh, India.
E-mail: truptiu@rediffmail.com

REFERENCES

1. Paniker CK, Ananthanarayan R. Textbook of Microbiology: 8th ed. Hyderabad: Universities Press (India) Pvt. Ltd.; 2013.
2. Demetra S, Bleotu C, Miron N, Socolov R, Boiculese L, Mares M, *et al.* Correlation between *Chlamydia trachomatis* IgG and pelvic adherence syndrome. In: *Chlamydia*; Mihai M, editor. Romania. Publisher Intech., 2012.
3. Poussin M, Fuentes V, Corbel C, Prin L, Eb F, Orfila J. Capture-ELISA: A new assay for the detection of immunoglobulin M isotype antibodies using *Chlamydia trachomatis* antigen. J Immunol Methods 1997; 204:1-12.
4. Moaiedmohseni S, Owje M. The value of *Chlamydia trachomatis* antibody testing in prediction of tubal factor infertility. J Fam Reprod Health 2007;2:29-32.
5. Dwibedi B, Pramanik JM, Sahu P, Kar SK, Moharana T. Prevalence of genital *Chlamydia* infection in females attending an obstetrics and gynecology outpatient department in Orissa. Indian J Dermatol Venereol Leprol 2009;75:614-6.

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

Access this article online

Quick Response Code: 	Website: www.ijstd.org
	DOI: 10.4103/0253-7184.167190

How to cite this article: Bajpai T, Ganesh BS, Neelesh G. Prevalence of *Chlamydia trachomatis* immunoglobulin G antibodies in infertile women attending an in vitro fertility center. Indian J Sex Transm Dis 2015;36:215-6.