Esipow A.S. Post-therapeutic evolution of anti-chlamydia trachomatis antibodies level in human serum and semen plasma and its applied significance for reproductive medicine // A.S. Esipow, S.V. Rishchuk // Environment and human health: the complete Works of International Ecologic Forum. – SPb, 2003. – P. 343-344.

POST-THERAPEUTIC EVOLUTION OF ANTI-CHLAMYDIA TRACHOMATIS ANTIBODIES LEVEL IN HUMAN SERUM AND SEMEN PLASMA AND ITS APPLIED SIGNIFICANCE FOR REPRODUCTIVE MEDICINE

Esipow A. S.[1], Rishchuk S. V.[2]

[1] NPP "ImmunoBioService", University Policlinic, Mendeleev State University, St. Petersburg, Russia
[2] Department of Obstetrics and Gynaecology, Mechnikov State Medical Academy, St. Petersburg, Russia

Introduction. *Chlamydia trachomatis* genital infection can cause such serious complication in women and men. The diagnosing of the infection is difficult because of its laboratory discrepancy. Antichlamydial immunoglobulings IgA are the more essential in diagnostic confirmation. In our recent research [1] we developed the results of German colleagues[2] concerning the diagnostic significance of the detecting of antichlamydial IgA in human seminal plasma. The role of IgA to *Chlamydia trachomatis* in human serum for diagnosing of genital chlamydial infection was established earlier [3, 4]. IgA to *Chlamydia trachomatis* in serum and seminal plasma are the markers of active infection. But because of antibodies are detected after antibiotic therapy during some period the practitioners can not exactly differentiate the already healthy men from still ill patients. The papers devoted to the post-therapeutic evolution of serum IgA are single but as to secretory *anti-Chlamydia trachomatis* antibobies in semen such publications are absent except for one announcement that IgA can persist for a long time after treatment [5].

We have analyzed our original data to estimate the duration of antichlamydial IgA elimination out of blood and ejaculate after antibiotic therapy.

Materials and Methods. 129 people (80 men and 49 women) suffering from antibody-positive urogenital chlamidiasis were tested by enzyme immunoassay before, at once after treatment and through 2–8 weeks, 3–6 months, 6–9 months and more than 9 months after antibiotic therapy. IgA and IgG to *Chlamydia trachomatis* were tested in 70 patients. Only IgG were measured in 59 patients. In 30 men evolution of IgA was estimated only in serum, in 25 men both in blood and in seminal plasma. The changes of IgA and IgG

levels were estimated in general groop, male and female groops distinctly, in female subgroops with and without pelvic inflammatory disease (PID). Control groop consisted of the 4 patients who refused antibiotic therapy and were tested repeatedly through some months.

Results and Discussion. The elimination of antichlamydial IgA out of serum and semen plasma in comparison with control groop developed after antibiotic therapy. Serum IgA were eliminated completely through 6–9 months after successful treatment. It was noted some sexual discrepancy. In women the elimination developed earlier than in men. Through 3–6 months it amounted to 100% in women and to 92,3% in men (P = 0,05 by Wilcoxon test). The elimination of IgA out of semen plasma was more slow and through 9 months after treatment had equaled 67–71%. It was supposed the latter was not caused by especial duration of the elimination, but it depended on heterogeneity of the groop in which male patients had antichlamydial antibodies in semen plasma. Usually the elimination developed for the first 9 months after treatment but in single patients antichlamydial IgA in semen plasma persisted for more long period. Currently there are no sufficient data to understand the immunopathogenesis of *Chlamydia trachomatis* infection in human semen. Just possible features of local (testicular) immunopathogenesis can condition long post-therapeutical persistence of antichlamydial secretory IgA in semen of some patients.

Serum IgG to *Chlamydia trachomatis* was detected in diagnostic titer during more than one year after effective therapy.

Acknowledgment. The detection of antichlamydial serum and seminal IgA is important in the diagnose of genital *Chlamydia trachomatis* infection. There exists phenomenon of antibodies persistence after antibacterial treatment more expessed for seminal secretory than circulating serum IgA. The testing for antichlamydial IgA in semen plasma must become integral measure of patient's laboratory scanning in reproductive centers.

References:

1. *Mikhailichenko V. V., Esipow A. S., Fesenko V. N.* Detection of anti-*Chlamydia trachomatis IgA* in semen plasma for the urogenital chlamidiasis diagnosing. "Urogenital infections – interdisciplinary problem" / Ed. L. M. Sogomonyan, issue II. – Saint-Petersburg, 2002. P. 11–12.
2. *Ochsendorf F. R., Ozdemir K., Rabenau H., Fenner T., Oremek R., Milbradt R., Doerr H. W. Chlamydia trachomatis* and male infertility: chlamydia-IgA antibodies in seminal plasma are C. trachomatis specific and associated with an inflammatory response. J Eur Acad Dermatol Venereol. – 1999 Mar.; 12(2): 143-52.
3. *Boitsov A. G., Porin A. A., Lastovka O. N., Rishchuk S. V., Shilova E. A., Belousova E. V.* Evaluation of the efficiency of serological diagnosis of chlamydial infection by enzyme immunoassay. Vestn Dermatol. Venerol. 2002; 1: 43–45.
4. *Samra Z., Soffer Y.* IgA antichlamydia antibodies as a diagnostic tool for monitoring of active chlamydial infection. Eur. J. Epidemiol. 1992 Nov.; 8(6): 882–884.
5. *Maruta N.* [Study of Chlamydia trachomatis in chronic prostatitis]. Hinyokika-Kiyo, 1992. – 38(3): 297–304.