

Evaluation on Antisperm Antibody in Infertile Women with Chronic Salpingitis

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Objective To evaluate the level of antisperm antibody (ASA) in infertile women with chronic salpingitis.

Methods Forty-eight infertile women with chronic salpingitis were enrolled into this study. Serum samples were screened by the direct immunobead test for ASA type IgG and IgA according to the WHO laboratory manual. About 50% or more of the motile sperm attaching to one or more immunobeads were regarded as clinical positivity according to the WHO criteria. About 20%–50% motile sperm that had adherent particles were deemed to be sub-positive.

Results Of the 48 patients with chronic salpingitis assessed for ASA-IgG, 4 had immunobead bindings ranged from 50% to 60%, and the positive rate was 8.3%. In addition, 5 cases had 20%–40% of immunobead bindings, and the sub-positive rate was 10.4%. For ASA-IgA detecting, 2 cases with ASA-IgG positivity also had ASA-IgA immunobead bindings, and the positive rates were 22%, and 28%, respectively.

Conclusion The incidence of ASA could be found in infertile women with chronic salpingitis, which suggests that an increased risk for the production of ASA would exist in the inflammatory status of fallopian tube.

Key words: antisperm antibody (ASA); salpingitis; infertility

Female infertility affects approximately 10% to 15% of women of reproductive age. In the last decades, female infertility is increasingly becoming a significant health problem in most countries^[1-3]. Decreased fertility in women has a variety of etiologies such as disorders of ovulation, endometriosis, uterine abnormalities and tubal diseases.

It is now generally recognized that tubal factor infertility accounts for a large portion of

female infertility^[4-6]. The most prevalent cause of tubal factor infertility is pelvic inflammatory disease and salpingitis^[7-11], and the latter is related to immune response and the induction of antibodies^[12-14]. Antisperm antibody (ASA) reduces female fertility potential^[15-20]. However, infertile women with chronic salpingitis whether is associated with the risk of production of ASA has not been fully understood. The present study was conducted to detect the ASA level in the serum samples of infertile women with chronic salpingitis by means of indirect immunobead test, aiming to elucidate the role of ASA in the pathogenesis of chronic salpingitis associated infertility.

Materials & Methods

Subjects

Forty-eight women (mean: 32.3 ± 3.2 years, range: 23–37 years) diagnosed as chronic salpingitis who came to the infertility clinic were enrolled into this study. Women with history of antiallergic, immunosuppressive treatment in the previous two months were excluded from this study. Detailed history and clinical features were recorded and all relevant investigations were performed. Informed consent was obtained from each subject.

Collection of serum samples

A volume of 3 ml of venous blood without anticoagulant was obtained from each case. After natural coagulation, the blood samples were centrifuged at $2\,000 \times g$ for 10 min, and the supernatants were taken and stored at $-20\text{ }^{\circ}\text{C}$ until used for ASA detection. Before ASA detection, serum samples of the subjects were heated at $56\text{ }^{\circ}\text{C}$ for 30 min to inactivate complement.

Indirect immunobead test (I-IBT)

The serum was screened by the I-IBT for ASA type IgG and IgA according to the method described previously^[21]. Briefly, as previously described^[22,23], mixed 50 μl of the washed donor sperm suspension containing $10\text{--}20 \times 10^6$ motile sperm/ml with 50 μl detected serum which had been diluted by 1 : 5, and the mixture was incubated at $37\text{ }^{\circ}\text{C}$ for 1 h. After washing, a volume of 5 μl of the sperm suspension was mixed thoroughly with 5 μl immunobead (Irvine Scientific, California, USA) suspension on a slide, which was observed with a phase-contrast microscopy. About 50% or more of the motile sperm attached to one or more immunobeads were regarded as clinical positivity according to the WHO criteria. About 20%–50% motile sperm that had adherent particles were deemed to be sub-positive. Sera of both ASA-positive and ASA-negative were set as the positive and negative controls, respectively.

Results

Of the 48 patients with chronic salpingitis assessed for ASA-IgG, 4 cases had

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