

Intrafollicular fluid antigamete antibodies in infertile patient candidates for ICSI

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Abstract

Introduction: Immunologic disturbances must be considered as a major cause of infertility. Antigamete antibodies like antisperm antibodies (ASA) and to anti-zona antibodies (AZA) seem to be implicated in the etiology of infertility. These antibodies affect fertilization and embryo development. It is important to screen these antibodies in infertile women who are candidates for in-vitro fertilization (IVF), because the presence of these antibodies may switch the treatment from IVF to intra-cytoplasmic microinjection (ICSI). The objective of this study was to determine the presence of ASA and AZA in the follicular fluids (FF) of women who sought candidacy for ICSI.

Materials & Methods: In this prospective study, the follicular fluids of 96 infertile women (20 to 39 years old, mean 31.5±5.1), who were candidates for ICSI, were evaluated. According to the etiologies, 80 women had explained whereas 16 had unexplained infertility. All the follicular fluids were evaluated for the presence of ASA by ELISA and Sperm MAR test and also for the presence of AZA by ELISA. The data were analyzed by Chi-square test using SPSS software and the significance level was considered $p < 0.05$.

Results: According to the results of ELISA and Sperm MAR test, none of the patients had ASA in their follicular fluids. However, twenty samples (20.8%) were positive for AZA. In patients with unexplained infertility, autoantibodies to zona pellucida were significantly higher in the follicular fluid than the group with proven etiologies for infertility ($p = 0.001$).

Conclusion: The low incidence of ASA and the high incidence of AZA in the infertile women in this study, especially in women with unexplained infertility in Iran have to be considered seriously. Determination of AZA is highly recommended in the evaluation of infertile couples, especially those with unexplained infertility.

Key Words: Anti-zona antibody (AZA), Antisperm antibody ASA, Follicular fluid (FF), Unexplained infertility, In vitro Fertilization (IVF), Microinjection (ICSI), Autoantibody, Antigamete antibody.

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