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JOURNAL ARTICLE

Soluble Fc gamma RIII (CD16) and immunoglobulin G levels in seminal plasma of men with immunological infertility

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Receptors for the Fc region of the immunoglobulin G (IgG) (Fc gamma R) have been recognized as a link between humoral and cellular immune responses. A soluble form of Fc gamma RIII (CD16) has been found in seminal plasma (SP), which may modulate immunosuppression of antisperm immune responses in the male and female reproductive tracts. SP from some individuals apparently have lower levels of Fc gamma RIII, but it is not known whether the diminished activities are due to low receptor concentration or steric interference from IgG. To test the hypothesis that different levels are due to steric interference, relative levels of Fc gamma RIII were measured in SP using monoclonal antibody 3G8 in an amplified enzyme-linked immunosorbent assay (ELISA) system. Men who were positive for antisperm antibodies (ASA) by Sperm Mar and direct immunobead assay (N = 26) and negative for ASA (N = 26) were tested. Individuals who were ASA positive had lower detectable levels than those who were ASA negative ($t = 1.99$, $P = 0.05$). Therefore, variation in Fc gamma RIII levels may be due to steric interference from IgG. IgG subclass concentrations in SP of both groups were determined using an ELISA method and compared to Fc gamma RIII levels. Slight correlations were seen for IgG1 ($r^2 = 0.237$, $P < 0.001$), IgG2 ($r^2 = 0.204$, $P < 0.001$), and total IgG ($r^2 = 0.299$, $P < 0.001$) in relation to Fc gamma RIII levels in ASA-negative SP specimens. (ABSTRACT TRUNCATED AT 250 WORDS)

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