Journal of Andrology, Vol 13, Issue 1 55-64, Copyright © 1992 by The American Society of Andrology

JOURNAL ARTICLE

Detection and quantitation of sperm-bound antibodies by flow cytometry of human semen

M. L. Rasanen, O. L. Hovatta, I. M. Penttila and Y. P. Agrawal

Department of Anatomy, University of Kuopio, Finland.

Detection of sperm surface antibodies is important for the diagnosis and treatment of infertility. The authors have investigated the methodologic aspects of flow cytometry (FCM) to detect sperm-bound antibodies and to quantitate the sperm antibody load (antibody molecules/spermatozoa). To obtain reliable results, dead spermatozoa must be excluded from analysis because they can bind antibody nonspecifically, and comprise 10% to 58% (n = 28) of the ejaculate in subfertile men. Flow cytometry estimation of dead cells correlates (r = 0.83) significantly with the manual Eosin Y method. After staining washed sperm samples (n = 26) with fluorescein-isothiocyanate-conjugated F(ab')2 fragments of anti-IgG and IgA antibodies, the sperm load was 11,500 +/- 8,600 IgG molecules and 13,200 +/- 9,500 IgA molecules per spermatozoa. The sperm antibody load measured on different occasions could be compared between patients or in the same patient by the use of calibration standards. Since the inter- and intra-assay variation of the FCM assays was less than 10%, FCM has the potential reliably and objectively to monitor the sperm antibody load during corticosteroid treatment.

This article has been cited by other articles:

HUMAN REPRODUCTION HOME

M. A. Nikolaeva, V. I. Kulakov, I. V. Korotkova, E. L. Golubeva, D. V. Kuyavskaya, and G. T. Sukhikh
Antisperm antibodies detection by flow cytometry is affected by aggregation of antigen-antibody complexes on the surface of spermatozoa
Hum. Reprod., December 1, 2000; 15(12): 2545 - 2553.
[Abstract] [Full Text] [PDF]

HUMAN REPRODUCTION HOME

G. Ricci, G. Presani, S. Guaschino, R. Simeone, and S. Perticarari
Leukocyte detection in human semen using flow cytometry
Hum. Reprod., June 1, 2000; 15(6): 1329 - 1337.
[Abstract] [Full Text] [PDF]

HUMAN REPRODUCTION HOME

T. Hjort
Antisperm antibodies: Antisperm antibodies and infertility: an unsolvable question?
Hum. Reprod., October 1, 1999; 14(10): 2423 - 2426.
[Full Text] [PDF]