



OVO
CLINIC

PREVALENCE AND ETIOLOGY OF DIRECT ANTI-SPERM ANTIBODIES (ASAS) IN INFERTILE MEN

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ABSTRACT

Introduction: Anti-sperm antibodies (ASAs) have been associated with male infertility and, specifically, with an underlying history of inflammation, surgery or trauma to the testicle or genital tract. The aim of this study was to evaluate the prevalence and etiology of ASAs in a large contemporary series of infertile men presenting for infertility evaluation.

Methods: We conducted a retrospective study of semen analyses obtained from men presenting for infertility evaluation at the OVO fertility clinic between 2006 and 2008. We recorded conventional semen parameters (concentration, motility, strict morphology) and ASA levels (measured by direct mixed agglutination reaction and expressed as the percentage of spermatozoa with IgG or IgA antibodies). Semen samples with >50% of spermatozoa coated with ASAs were defined as ASA-positive. We also conducted a clinical chart review of ASA-positive and ASA-negative samples.

Results: Of the 1988 semen samples that were identified, 129 (6.5%) were ASA-positive. A clinical review of 74 of the 129 ASA-positive cases was possible. This review indicated that 66% (49/74) of the ASA-positive men had a vasectomy and subsequent vasovasostomy, 3% (2/74) prior orchidopexy, 1% (1/74) chronic epididymitis and 30% (22/74) had no prior history of scrotal surgery or genital tract inflammation. An evaluation of 105 consecutive ASA-negative samples (with no detectable ASAs) indicated that 1% (1/105) of the ASA-negative men had a vasectomy and subsequent vasovasostomy, 2% (2/105) prior orchidopexy, 1% (1/105) current genital tract infection and 96% (101/105) had no prior history of scrotal surgery or genital tract inflammation.

Conclusions: These data indicate that ASAs are uncommon in infertile men. The data also demonstrate that in the majority of men without a prior history of vasectomy, there is no identifiable cause for the ASAs.

OBJECTIVE

The aim of the study was to assess the prevalence and etiology of sperm anti-sperm antibodies (ASAs) in infertile men undergoing semen analysis prior to ART treatment. Our hypothesis was that in the majority of cases with positive ASAs there would be an explanation for the ASAs seen in the patient's medical history. If this proved to be true then the routine application of the ASA test during semen analysis would be unnecessary.

METHODS

A retrospective analysis of data was performed on semen analysis from men presenting for evaluation over a two year period. Semen analysis were carried according to WHO recommendations (1). Semen ASA were assessed using the Direct mixed agglutination reaction test and the result considered positive when 50% of the spermatozoa or more had evidence of ASA by binding of beads. The location of the binding was also recorded (head, midpiece, tail) although this information was not used in this study. All the ASA positive samples were identified from 1988 total semen analyses studied and clinical review of those patient's files was carried out to ascertain any possible clinical explanation for the ASA status.

RESULTS

| ASA Positive (n=74) | |
|---|-----|
| Vasovasostomy | 66% |
| Prior Orchidopexy | 3% |
| Chronic Epididymitis | 1% |
| No prior history of scrotal surgery or genital tract inflammation | 30% |

ASA Negative (n=105)

| | |
|---|-----|
| Vasovasostomy | 1% |
| Prior Orchidopexy | 2% |
| Chronic Epididymitis | 1% |
| No prior history of scrotal surgery or genital tract inflammation | 96% |

CONCLUSION

In this study we attempted to assess the prevalence of ASAs in infertile men and also to assess whether those patients at high risk for an ASA positive semen sample could be determined by their medical history. ASA analysis is recommended to be included in the WHO compliant semen analysis; however the relevance of this test and the application of specific treatments based on the ASA result is based on consensus rather than any solid published evidence. (2)

Having reviewed nearly two thousand semen analyses, there were 6.5% of the samples with positive ASA results; those having at least 50% spermatozoa with evidence of beads bound to either the head, mid-piece or tail. From those cases (129) it was possible to review the medical history for 79 cases. This is because our andrology laboratory performs diagnostic analyses as referral laboratory as well as for our own patients. The medical histories of these patients were reviewed and an explanation for the ASA positive result was researched.

The majority of patients with a positive ASA result had a medical explanation in their history with the majority due to a vasectomy and subsequent vasovasostomy, however there was a significant proportion (30%) for whom there was no obvious medical explanation for the presence of ASAs. On the other hand when samples with negative ASA were assessed very few of the patients had any reported history of surgery, disease or trauma to the genital area with the vast majority (96%) having no prior history.

This retrospective data analysis study indicates that ASAs are uncommon in infertile men and that in the majority of positive cases there is a previous history of vasovasostomy. However when there is no history of vasectomy the majority of cases have an unexplained cause for positive ASAs.

REFERENCES

1. WHO Manual for the Examination of Human Semen and Sperm-Cervical Mucus Interaction. 4th Edition. Cambridge University Press. 1999.
2. WHO Manual for the standardized investigation, diagnosis and treatment of the infertile man. 1st Edition. Cambridge University Press. 2000.



OVO
FERTILITY

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