

EVALUATION OF ANTISPERM ANTIBODIES IN CASES OF UNEXPLAINED STERILITY

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SUMMARY

In this study hundred couples of primary and secondary sterility in whom no cause of sterility was found were investigated for the presence of sperm agglutinating antibodies in their sera. These antibodies were detected in 37% females and 31% of males while in normal fertile couples only 2% of males and females should positive result.

Sperm agglutinating antibodies seem to play an important role in persons having unexplained infertility.

Introduction

Since the time immemorial the obstetricians are concerned about the etiology and treatment of sterility. Despite all the efforts it is not uncommon to find the cases with no obvious incriminating factor, such cases are labelled as unexplained sterility.

In recent years it has become more apparent that immunological factors can play a major role in the processes of reproduction so it is important to investigate these cases from immunological angle, which will help both in studying etiology and in initiating therapy.

Material and Methods

The study was conducted at S. N. Medical College/Hospital, Agra in the Department of Obstetrics and Gynaecology and in the Department of Pathology and

Microbiology from September 1983 to September 1984. 60 cases of primary sterility and 40 cases of secondary sterility were selected. For the purpose of comparison 50 normal fertile couples were also studied.

These cases were submitted to detailed clinical examination and were investigated thoroughly e.g. in females study of cervical mucus, premenstrual endometrial biopsy, tubal testing, hysterosalpingography and diagnostic laparoscopy were done. In male patients detailed semen examination was done. The patients in whom no cause was detected to explain their infertility, a specific investigation to detect sperm agglutinating antibodies was done both in male and female partners.

Micro-agglutination test by method of Franklin and Dukes (1964) was used in this study. Agglutinin positive sera were subjected to titer determination in serial dilutions.

On microscopic examination three types of agglutination were seen (i) head to head (ii) tail to tail (iii) mixed.

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Observations

A total of 150 couples were studied from sterility clinic and these cases were divided in three groups:

- Group I Primary sterility (60 couples).
- Group II Secondary sterility (40 couples),
- Group III Control group (50 normal fertile couples).

only 2% male and 2% females were positive.

The above table shows that in males 31% and in females 37% cases were positive for sperm agglutinating antibodies.

It is clear from the above table that most of the male patients in both the groups showed tail to tail type of agglutination while most of the females showed head

TABLE I
Showing Number and Percentage of Agglutinin Positive Cases in Group I, II and III

	Group I		Group II		Group III	
	No.	%	No.	%	No.	%
Husband	23	38.33	8	20.0	1	2.0
Wife	25	41.67	12	30.0	1	2.0
Both	22	36.67	8	20.0	—	—

The above table shows that in primary sterility group 38.3% males showed positive agglutination test while 41.6% females were positive for this; of these 36.6% of both husband and wife had sperm agglutinating antibodies. Similarly in Group II 20% male patients and 30% female patients showed positive test and in 20% cases both husband and wife showed positive results, while in control group

TABLE II
Showing Overall Incidence of Positive Antisperm Antibodies in Primary and Secondary Sterility Group

Subject	No. of cases	Total positive	Percentage
Husband	100	31	31
Wife	100	37	37

TABLE III
Showing Distribution of Types of Agglutination in Group I and II

Type of agglutination	Husband		Wife	
	No.	%	No.	%
Group I				
Head to head	1	4.34	22	88.0
Tail to tail	20	86.9	2	8.0
Mixed	2	8.69	1	4.0
Group II				
Head to head	—	—	10	83.33
Tail to tail	8	100.0	1	8.33
Mixed	—	—	1	8.33

TABLE IV

Showing Incidence of Sperm Agglutinating Antibody Positive Cases Worked Out by Various Authors

Authors	Year	Husband %	Wife %	Control %
Rumke and Hellinger	1969	3.0	—	—
Franklin and Dukes	1964	—	78.9	11.8
Schwimmer <i>et al</i>	1967	7.8	37.5	3.4
Isojima <i>et al</i>	1972	—	37.5	45.8
Mukherjee <i>et al</i>	1973	4.2	19.1	—
Pacheco <i>et al</i>	1973	—	38.0	—
Frieberg	1974	23.0	17.0	—
Present study	1983- 1984	31.0	37.0	2.0

to head type, only few cases in both the groups showed mixed type.

Discussion

It has been stated repeatedly that approximately 10-15% of all marriages in this county are infertile. 20% of these infertile couples have been found to have no apparent or organic basis for this infertility.

Present study investigated these unexplained sterility cases for the presence of anti sperm anti-bodies in their sera, and found that 37% females and 31% males were having sperm agglutinating antibodies which may, to some extent, explain the cause of infertility in those cases. Only 2% of the males and 2% females of normal fertile group showed positive results that too in low titer which seems to be insignificant.

The above table shows the study of in-

cidence of antisperm antibody positive cases done by various workers throughout the World. Their results further confirm the conclusion that antisperm antibodies play an important role in patients having unexplained sterility.

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