



TO STUDY THE ROLE OF ANTIPHOSPHOLIPID ANTIBODIES IN CASES OF UNEXPLAINED FEMALE INFERTILITY

Gynaecology

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ABSTRACT

Introduction: Unexplained or idiopathic infertility refers to failure to conceive in a couple for whom no definitive cause of infertility can be found. Usually, the duration of infertility is more than two years. One of the etiological factors for that is autoimmune response generated by various auto antibodies.

Aim: To Find out the Association of Anti phospholipid Antibodies (APLA) In Cases of female Infertility

Material & method: Our observational study was conducted among female patients attending OPD of Department of Obstetrics and Gynecology for the management of infertility

Result: A statistically significant increase in APLA was seen in primary and secondary infertile group as compared to control group

Conclusion: Autoimmunity and reproductive disturbances are associated with unexplained infertility.

KEYWORDS

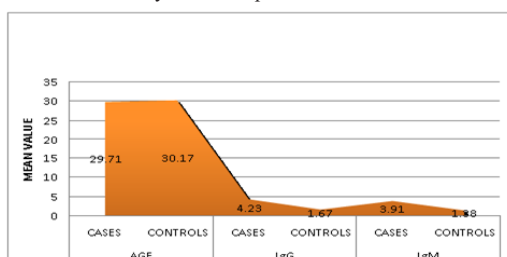
Antiphospholipid antibodies (APLA), unexplained infertility, implantation dysfunction (ID)

INTRODUCTION:

Infertility is defined as inability to conceive after one year of regular intercourse without contraception.¹ It is further divided into primary and secondary type. In India, evidence on the prevalence of infertility is sparse and dated. The World Health Organization (WHO) estimates of primary and secondary infertility in India are 3% and 8%, respectively (WHO 1980, 1984). Data extrapolated from WHO by the Indian Council of Medical Research (ICMR) suggest that approximately 13-19 million couples are likely to be infertile in India at any given time (ICMR 2005).² Unexplained infertility, sometimes also called idiopathic infertility, refers to failure to conceive in a couple for whom no definitive cause of infertility can be found. Usually, the duration of infertility is more than two years.^{3,4} Dysregulation of immune system and production of auto antibodies targeting reproductive system is considered to be one of the prime causes of unexplained infertility. One of the prime non-specific antibodies that has been associated with unexplained infertility is Antiphospholipid antibodies (APLA), it belongs to a group of heterogeneous nonspecific auto antibodies directed against phospholipids which are associated with slow progressive thrombosis and infarction of the placenta.⁵ Reproductive failure that is associated with APLA includes spontaneous abortion in the second or third trimester and pregnancy-induced hypertension. APLA also leads to implantation dysfunction (ID), considered to be lethal to the implanting embryo and leads to unexplained infertility.

MATERIAL & METHOD:

Our cross-sectional study was conducted for a period of one year on females of reproductive age group attending Obstetrics and Gynecology OPD of Subharti Medical college, Meerut, UP, total 100 cases of infertile female of reproductive age group were included in the study. Similar number of age and sex matched control were also included in this study. Females diagnosed with a case of infertility due to congenital anomaly of female reproductive tract and those who were on anticoagulant and steroid therapy were excluded from our study. After taking a written consent all cases and control group were evaluated for Serum APLA (IgM & IgG) by ELISA, Sandwich Enzyme Immunoassay method as described by Hughes.⁶ Data were expressed as Mean $\pm$ SD. The statistical significance of difference in values was assessed by student unpaired t-test.



Mean value of age, IgG and IgM in total cases and controls

RESULT:

Table 1: Mean Value, Sd And P Value Of Igg And Igm For Total Cases And Controls

GROUPS		NO.	MEAN $\pm$ SD	P value
AGE	CASES	100	29.71 $\pm$ 5.27	0.5747
	CONTROLS	100	30.17 $\pm$ 6.26	
IgG	CASES	100	4.23 $\pm$ 4.04	0.0001
	CONTROLS	100	1.67 $\pm$ 0.81	
IgM	CASES	100	3.91 $\pm$ 3.72	0.0001
	CONTROLS	100	1.38 $\pm$ 0.52	

The mean age in cases was 29.71 $\pm$ 5.27, while in controls was 30.17 $\pm$ 6.26. The p value was 0.5747 which was not statistically significant. The mean value of IgG in total cases was 4.23 $\pm$ 4.04, while in controls was 1.67 $\pm$ 0.81 and p value was 0.0001 which was found to be statistically significant. The mean value of IgM in total cases was 3.91 $\pm$ 3.72, while in controls was 1.38 $\pm$ 0.52 and p value was 0.0001 which was found to be statistically significant.

DISCUSSION:

The role of APLA in infertility has been the focus of several clinical reports. In recent years, this association has led some investigators to speculate that APLA may also be associated with IVF failure. The results of such studies are very much conflicting and this question has been one of the greatest controversies in assisted reproduction.⁷ Our study was also entitled to find out the role of antiphospholipid antibody in cases of unexplained infertility and we have found a significant higher value of these antibodies (IgM & IgG) in cases of unexplained infertility as compared to controls. In a study done by Radojcic et al⁸, none of the females in the fertile group (0%) were positive for APLA. The percentage of females with unexplained infertility found to be positive for APLA were 15.4%. Taylor et al⁹ reported that a significant proportion of 41 women with unexplained infertility had serologic evidence of APLA. Aoki et al¹⁰ reported that 5% of women with unexplained infertility were positive for APLA. None of the control groups were found to be positive for APLA. Malinowski et al¹¹ found that occurrence of APLA was statistically more often in patients suffering from infertility than in controls (17.9% vs 4.5%, p<0.05).

CONCLUSION:

From our study it is clearly evident that level of APLA are more prevalent in cases of infertile women of reproductive age group as compared to fertile control.

We can suggest the regular testing of APLA in cases of unexplained infertility so that positive test results should be utilized in proper management of such cases.

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