

SHORT REPORT

Determination of anticardiolipin antibodies in recurrent abortion

*\*Ne Win, \*\*Ye Naing Oo, \*Minn Minn Myint Thu,  
\*Yin Min Htun, \*Mu Mu Shwe & \*\*Thein Myint Thu*

\*Pathology Research Division, DMR (Lower Myanmar)

\*\*Department of Obstetrics and Gynecology, Defense Services Medical Academy

Miscarriage is the most common complication of pregnancy. Spontaneous miscarriage occurs in approximately 15-20% of all pregnancies according to hospital figures while it may be up to 30% as many cases remain unreported to hospital. Between 1% and 2% of fertile women will experience the recurring loss of pregnancy. No apparent cause is found in approximately 50% of cases [1, 2]. Anti-cardiolipin antibody (ACLA) (an anti-phospholipid antibody-APLA) is strongly linked with fetal loss [3, 4]. In developed and some developing countries, it has been suggested that before planning a subsequent pregnancy, the presence of ACLA should be tested in all women with poor pregnancy outcomes [5, 6]. Although the incidence of APLA in recurrent pregnancy loss has been studied worldwide, there is not a single study yet in Myanmar. We report the ACLA of both IgG and IgM subtypes content in women with the history of recurrent abortion.

Twenty women with the history of recurrent abortion were recruited in this study. Those women with known Systemic Lupus Erythematosus and other connective tissue disorders, chronic malaria, diabetes, chronic renal diseases, reactive Venereal Disease Research Laboratory (VDRL) test, suspected induced abortion, traumatic pregnancy losses, uterine anomalies and haemoglobin H diseases are not included in this study. Serum ACLA-IgG and ACLA-IgM were measured by Enzyme Linked

Immuno Sorbent Assay (ELISA) method. Cardiolipin (Sigma) was used as an antigen, goat-anti-human IgG and IgM were used as primary antibodies and alkaline phosphatase-conjugated rabbit-anti-goat IgG (Sigma) was used as secondary labeling antibody Di-amino Benzidine (DAB) was used as a substrate for color development and the OD was read with automatic ELISA reader (18500/1, HUMAREADER, HUMAN, Germany) at the wave-length of 405 nm.

Serial dilution of sera from patients and controls was carried out starting from Neat, 1:100, 1:500, 1:1000, 1:2000, up to > 1:8000 dilution. For IgG, samples which are positive with neat and 1:100 dilution are taken as low (normal) titre, 1:500 and 1:1000 dilution as medium titre, and 1:2000 and above are taken as high titre. For IgM, samples positive to <1:2000 are taken as low (normal) titre, to 1:8000 as medium titre and >1:8000 as high titre. Twenty apparently healthy individuals were used as controls. Ninety-six well Titertek polystyrene plate was used and the blank value, estimated in triplicate on each plate was obtained by identical treatment of wells using phosphate buffered saline/fetal calf serum (PBS/FCS), in the place of serum. The ACLA antibodies are distributed as follows;

ACLA-IgG titre is low and comparable with normal controls in 12/20 (60%) of the cases with recurrent abortion. It is found to be

A. Normal controls (n=20)

Titre	IgG + cases	IgM + cases	Both + cases
Low (Normal)	20	20	00
Medium	00	00	00
High	00	00	00

B. Recurrent abortion cases (n=20)

Titre	IgG + cases	IgM + cases	Both + cases
Low(Normal)	12	13	17
Medium	06	05	03
High	02	02	00

increased in 08/20 (40%) of the cases where 6 cases have medium and 2 cases have high titre. ACLA-IgM titre has almost the same distribution pattern as ACLA IgG. Both IgG and IgM were increased in medium range in 3 cases.

At the time of blood sampling for ACLA determination, 7 cases were pregnant at different periods of gestation. Among them, one case was aborted at 10 weeks, one case premature labour of healthy baby at 36 weeks, two cases were still in well progressing pregnancy. Three cases who took low-dose aspirin (Aspilet 80 mg OD) starting from first antenatal visit empirically prescribed by obstetrician were delivered by elective caesarean section at term having good sized, healthy babies. These cases have no significant post operative and puerperal complication.

Antiphospholipid syndrome has been classified in relation to diagnosis and type of management to be provided [7, 8, 9]. The findings from the present study may be helpful to adopt appropriate interventional measures to reduce the recurrent pregnancy losses and fetal wastages.

## REFERENCES

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