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Research Article

Important Role of B2-Glycoprotien in Females with Recurrence Abortion

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ABSTRACT

Recurrent abortion consider as one of the most common problem in world. There are different causes associated with recurrent abortion, these may be occur due to complication of microorganism infection or associated with immunological disturbance like abortion caused by Anti-phospholipid syndrome, or associated with SLE. The anti-b2glucoprotien antibodies have a role in abortion. In this study, we wish to determine whether there is a relationship between the levels of these anti-b2glucoprotien antibodies and abortion. Thirty females patients with spontaneous abortion (10 of them with Antiphospholipid syndrome,10 of them with systemic lupus erthymatosus and final 10 with toxoplasmosis with ages ranged between (20-46) where taken from (Al-Hussein Medical City/Kerbala). Control group consisted of 20 healthy people who were free from history of abortion who matched in age and gender with patients. B2gp(IgM&IgG) EASIA Kit, generic assay) and was studied using the enzyme-linked immunosorbent assay (ELISA) method. T-test and ANOVA and Pearson correlation used to analyze results by using SPSS version 24. P-value ≤ 0.05 was considered significant. The patients with age range blow 30 years show high percent(63.3%) among the other groups .most of the patients have high percent of 3 times abortion were reported in all different groups .The mean value of anti-B2gP-I IgG (45.354) show highly a significant difference results in aborted patients with APS and significant difference in patients with SLE when compared with controls groups. the Anti-B2gPI IgM not give statistically significant difference when camper to health cases. we conclude that the Anti-B2GPI IgG levels were increased significantly in aborted females with APS and SLE .

Keywords: B2glucoprotiens, APL, SLE.

INTRODUCTION

Abortion usually defined as the end of pregnancy by losing two or more fetus or embryo before it complete its period until delivery with the same partner and that occur before the first 24 weeks of gestation also known as recurrence mischarge . There are many causes that lead to recurrence miscarriage The antiphospholipid syndrome(APS) is one of the main causes of miscarriages in 15% of patients, [Rai RS ;etal 1995].APS define as autoimmune condition can affect many system manly causes recurrent thrombosis for arteries and/or venous, (Pierangel SS;etal 2008) in which exact pathogenesis of these syndrome was not clear specifically, while the investigators and their researches focusing on the release of inflammatory cytokines, coagulation abnormalities, aggregation of platelet and damage of trophoblast cells, these mechanism caused by the interactions between trophoblast cells ,lymphocytes, and endothelial cells with antiphospholipid antibodies (Ruiz-Irastorza G; etal 2010 Wang YQ et al 2012.There are many other causes for abortion like vascular disease (like Systemic lupus ertheomatosis) [Stöppler 2009], SLE or anti phospholipid syndrome may lead to thrombosis, multiple abortions and a wide variety of other complications(Hanly JG. 2003, Asherson RA;etal 2006, Gharavi Ae;etal 2003).And chronic infection with toxoplasma (Dubey J.P.etal 2014, Nematollah A;etal 2014).

PATIENTS AND METHODS

Selection of patients

The current study done through period ranged from 1/ march /2017 to 1/December /2017, 30 females with recurrence abortion with ages ranged between (20-47) years were taken from (hospital of gynecology /Kerbala). Also, we collected 20 healthy females as healthy group who were free from any previous history of aborted problem, the control group matched in age and gender with patients.

Sample collection and assay procedure

Collection about 5ml of venous blood from patients and healthy group, then left it at room temperature and centrifuge for 10 min. at (3500 rpm). After that Serum was separated and preserved at -70c until time of analysis. All serums for patients and control group were examined for anti-b2gp-I IgM and IgG (by using Euro

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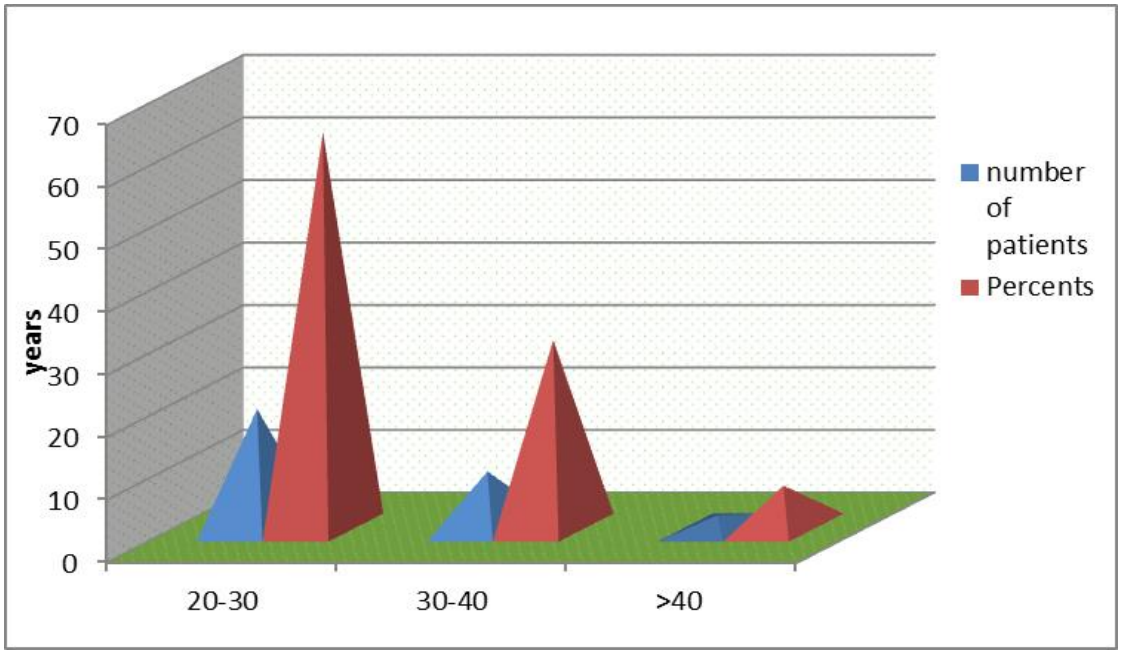

Figure 1: Distribution of number of patients and percent according to age groups.

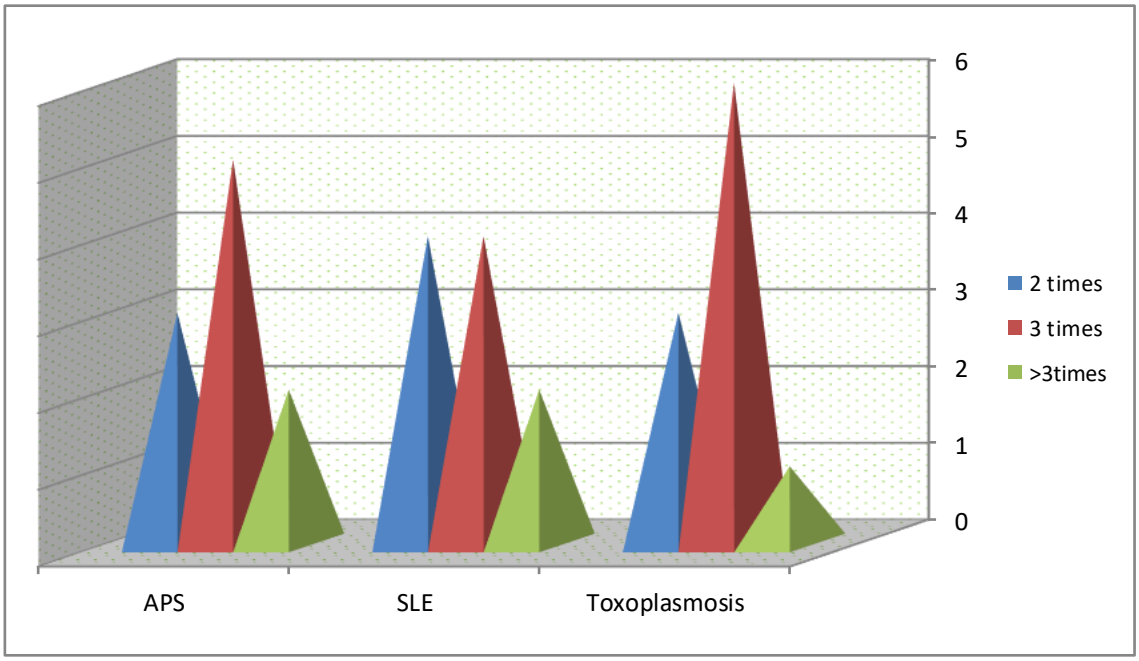

Figure 2: Distribution of patients according to number of previous abortion depending on different causes.

immune \Germany kits), depending on commercially available and performed as recommended in the leaflet of the kits.

Statistical Analysis

Results are expressed as mean ± standard error mean (SEM), student t-test and ANOVA and Pearson correlation used to analyze results by using SPSS version 24. P-value ≤ 0.05 was considered significant.

RESULTS

The results of this table recorded that the age between 20-30 years represented high percent of miscarriage 63.3%, followed by age with 30-40 years which recorded 30%, and lowest percent recorded by age above 40 years by percent 6.7%.

Results of figure 2 show the patients with 3 times abortion represent highest number of previous abortion in all groups that occur obviously in patients with toxoplasmosis. Also, the patients with more than 3 times of repeated abortion reported lowest number in all groups that also occur obviously in patients infected with toxoplasma.

This figure show the highly significant difference levels of B2gP-I IgG in patients with phosphor lipid syndrome and healthy group. Also, there is significant increase in mean levels of patients with systemic lupus erthymatosus

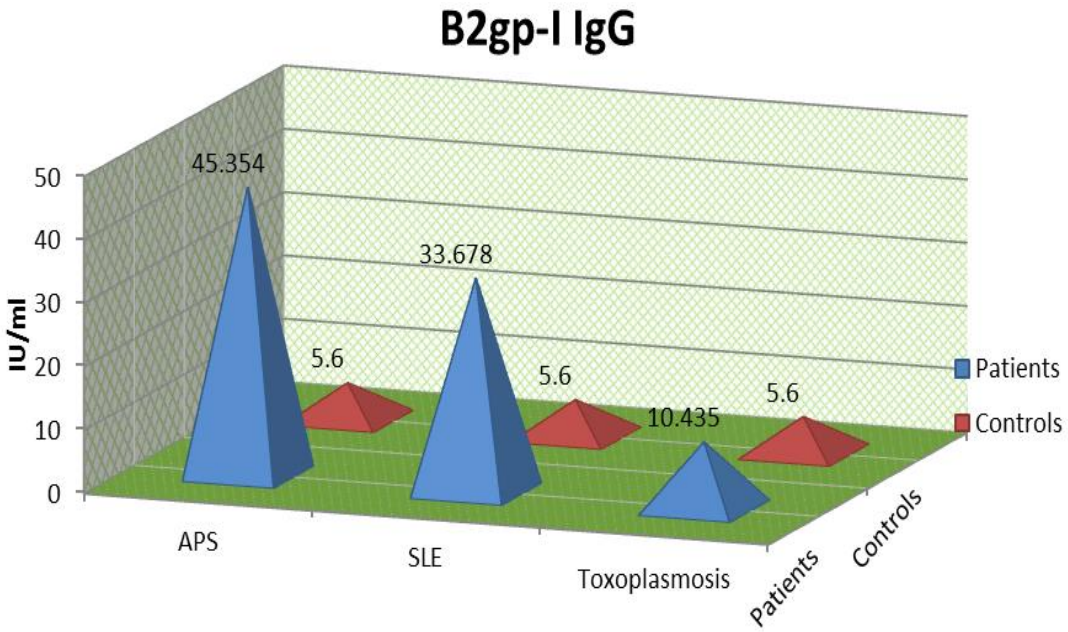

Figure 3: distribution of means levels of B2gP-1 IgG in patients and healthy cases groups.

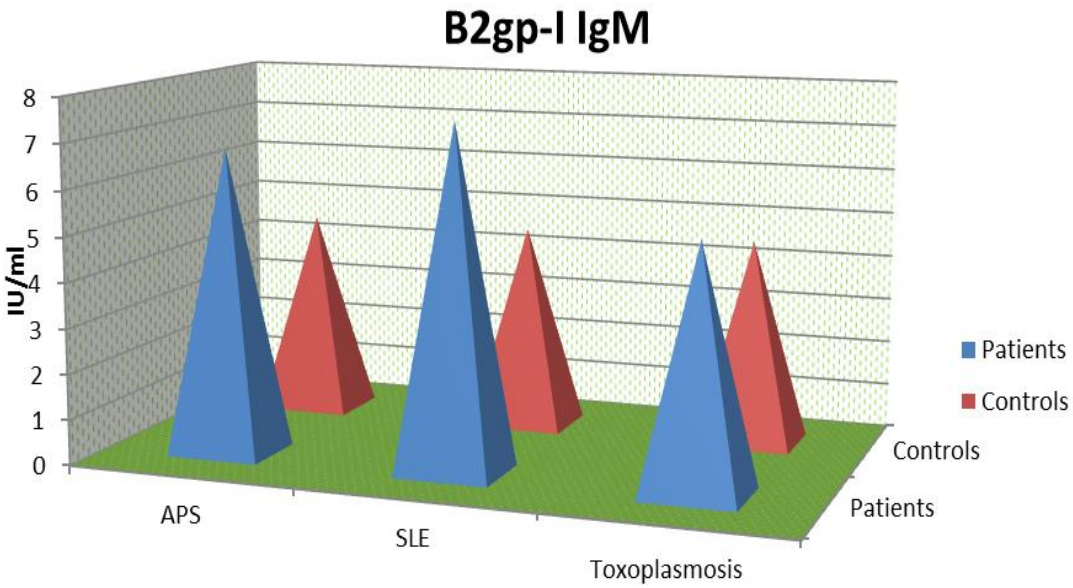

Figure 4: distribution of means levels of B2gP-1 IgM in patients and healthy cases groups.

and when camper with healthy cases. There was slightly increase in mean levels of B2gP-I IgG in patients with toxoplasmosis when camper with healthy group.

Results of figure 4 recorded slightly increase in mean levels of b2gP-I IgM in all patients with different groups when camper with healthy cases, these increase not give statistically significant difference among these groups.

DISCUSSION

Depending on the finding of this study, which done on the 30 patients divided to three groups according to cause of abortion. The figure 1 recorded the main age groups give highest percent was 20-30 years and this results was completely agreed with result done by Marzieh A *etal* 2017 ,he found that highest percent of patients with repeated abortion have age blow 30 years old .the results of figure 2 reported the high percent of abortion was 3 times in all groups and the low percent was recorded in more than 3 times of abortion these result agreed with Marzieh A etal 2017 he recorded 70% of patient give 3 time abortion . in the presents study we find there is association between IgG –anti B2gP and abortion in patients with APS in contrast with IgM anti B2gP , and this results was agreed with many study that recorded the IgG against B2gP have strong association with clinical manifestation ,but IgM anti-B2gP which has only role in first time of assessment [Lakos;*et al* 1999].Also other study done by was recorded there were an important association between IgG anti- B2gP and typical ASP manifestation included miscarriage and venous thrombosis abortion, in contrast to IgM anti-B2gP [Lakos;*et al* 2012].Also there is same association between IgG B2gP and SLE and that recorded by study done on about 800 patients with SLE which recorded there is

relation between venous and arterial thrombosis with IgG antiB2gP but not association with IgM [Mehrani, T; *etal* 2011]. These association may be due to placental vessels thrombosis and also non-thrombotic mechanisms that may be consider very important. This mechanism represented by binding of anti-B2GPI to trophoblasts that lead to modulation of trophoblast proliferation and growth. Anti-B2GPI have ability to affect endometrial cells in the decidua that might impede implantation. Anti-B2GPI can cause complement activation and enhanced apoptosis of embryonic and placental and finally have ability to play an important role in the pathways that causes a recurrent early miscarriage, placental insufficiency, pre-eclampsia and fetal loss [Meroni, P.L;2011].

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