

## A Study of Lupus Anticoagulants and Anticardiolipin Antibodies in Patients with Infertility and Recurrent Spontaneous Abortion

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**Objective:** To report the prevalence of lupus anticoagulants and anticardiolipin antibodies in patients with recurrent spontaneous abortion and infertility.

**Material and Method:** Lupus anticoagulants and anticardiolipin antibodies were analyzed by Diluted Russell's Viper Venom Test (DRVVT) and solid phase enzyme immunoassay, respectively.

**Results:** In 200 patients with infertility, there were 6 cases (3%) with positive lupus anticoagulants or anticardiolipin antibodies. Of these, 3 patients (1.5%) showed positive lupus anticoagulants and anticardiolipin antibodies, respectively. In 120 patients with recurrent spontaneous abortion, there were 13 cases (10.8%) of positive lupus anticoagulants or anticardiolipin antibodies. Of these, one patient (1%) showed lupus anticoagulants and 12 patients (10%) showed anticardiolipin antibodies. But in two groups, there was no cases with positive lupus anticoagulants and anticardiolipin antibodies.

**Conclusion:** Lupus anticoagulants and anticardiolipin antibodies are definite cause of recurrent spontaneous abortion. There has been a speculation that they might be associated with infertility and repeated IVF failures. But it was found that the role of lupus anticoagulants and anticardiolipin antibodies in these cases are not clear.

**Key Words:** Lupus anticoagulants, Anticardiolipin antibodies, Recurrent spontaneous abortion, Infertility

(antiphospholipid protein antibodies: APA) (antiphospholipid antibodies) (lupus anticoagulants: LAC) (anticardiolipin antibodies: ACA) (systemic lupus erythematosus: SLE)

가 (antiphospholipid antibodies) (lupus anticoagulants: LAC) (anticardiolipin antibodies: ACA) (systemic lupus erythematosus: SLE)

microtiter plate neoepitope (systemic lupus erythematosus: SLE)

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prothrombin  
 (thromboembolism)

가  
 C

가

(solid phase radio-immunoassay)  
 (enzyme-linked immunosorbent assay)

가

VDRL

1952

가

1998 1 1 2001 12 31  
 200

(antiphospholipid syndrome: APS)

1.

trisodium citrate

가

2000 g 20 2 -70

Instrumentation Laboratory (USA) Diluted Russell's Viper Venom Test (DRVVT)

가

2.

cardiolipin well 가  
 horseradish peroxidase가  
 anti-human immunoglobulin antibody 가  
 . 30 . Substrate  
 가 spectrophotometer  
 DiaSorin Stillwater (USA) EIT-

bin-thrombin , X

prothrom- 30

**Table 1.** The incidence of LAC and ACA in infertile patient

LAC	3 (1.5%)
ACA	3 (1.5%)
LAC + ACA	0
<b>Total</b>	<b>200</b>

**Table 2.** The incidence of LAC and ACA in patient with recurrent spontaneous abortion

LAC	1 (1%)
ACA	12 (10%)
LAC + ACA	0
<b>Total</b>	<b>120</b>

Cardiolipin

5,6  
(transient ischemic attacks: TIAs),  
(amaurosis fugax)<sup>1</sup>  
200  
가  
6 (3%)  
가 가  
(Table 1).  
120  
가 13  
(10.8%)  
1  
12 (10%)  
가 가  
(Table 2).  
Sneddon<sup>7</sup>  
가  
1  
procainamide, quinidine, qui-  
nine  
8  
가  
C  
가  
(alloantibody)  
9  
(livedo reticularis),  
1  
가  
65 kDa<sup>10</sup>  
23  
가  
11  
(postpartum syn-  
drome)  
4  
14~77%

<sup>12</sup> (1) C <sup>16</sup>  
 (activated partial thromboplastin time, dilute Russell viper  
 venom time, Kaolin clotting time, dilute prothrombin  
 time, Textarin time), (2)  
 , (3) 가  
 , (4)  
 가  
 가 30~  
 40% 가  
<sup>12</sup> 가 (enzyme-linked  
 immunosorbent assay)  
 90% 가  
 30% 가 <sup>17</sup>  
 70% 가 25%  
<sup>18</sup>  
 GPL, MPL 가  
 가  
 prothrombin 가  
 prothrombin ?<sub>2</sub>-glycoprotein I 가  
 가 <sup>13</sup> 가  
 neoepitope가 0.3%, 2.2% <sup>19</sup>  
 가 가 1449  
<sup>14</sup> 가 85% 가  
<sup>1</sup> 가 <sup>20</sup>  
 가 thromboxane pro-  
 stacyclin 가 가  
 heparin sulfate 가  
 serine protease antithrombin III-heparin  
 (downregulation) <sup>15</sup>  
 가 C 가  
 C V , S ,

G M  
 가 thromboxane 가 prostacyclin  
 가 35,36  
 thromboxane  
 가 21~23  
 가, C  
 가, 24  
 가 37~39  
 가 21  
 가  
 가 25,26  
 가  
 가  
 가  
 가  
 가 27  
 가  
 (necrotic- 28,29  
 zing decidual vasculopathy) 가  
 가 47  
 가 30  
 가  
 가  
 가 thromboxane / prostacyclin  
 가  
 가 prostacyclin  
 31,32  
 가 33,34

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