

*Study of Genetic Vascular Endothelial
Growth Factor (VEGF) 2578 C/A, 634 C/G, and 936 C/T
polymorphisms in Women with Recurrenttt Abortione*

Ishraq Abdul ameer Salih

Maan Abdul ameer Salih

Department of Biology, Science For Women, University of Babylon

Department of Biology, Science , University of Babylon

ishraqishraqsalih@gmail.com

Abstract:

The cutting-edge exploration was once finished to find the connection of VEGF gene great vibration girls with abortion. The system that utilized in the modern investigation is RFLP strategy. DNA was once separated from blood. The effects exhibit This examination blanketed forty five sufferers 45and manipulate girls with live-born teens had been recruited from wholesome Iraqi women. DNA fragments have been investigated by using the usage of splendid primers. SNP scanning was once carried out the usage of BgIII, BsfmI, and NlaII limit enzymes for three type of gene , . abortion in women amongst female can once related with the vibration associated to VEGF of three snps were significantly greater one of a kind women .
.Keywords: VEGF, PCR- RFLP technique, Haplotypes

Introduction

The time span 'Early termination' is used to numerous issues of early pregnancy, and it is important to be clear on wording. In 2005, the European Society of Human Reproduction and Embryology (ESHRE) presented a changed phrasing including early being pregnant events ((1)

A being pregnant misfortune that happens after a positive urinary human chorionic gonadotropin (h CG) or a raised serum β -h CG be that as it may sooner than ultrasound or histological confirmation is depicted as a 'biochemical misfortune'. By and large, these occur sooner than about a month and a half of development. The time-frame logical unsuccessful labor is utilized when ultrasound assessment or histological confirmation has tried that an intrauterine being pregnant has existed. Clinical unnatural birth cycles may likewise be partitioned into early logical pregnancy misfortunes (before

gestational week 12) and late clinical being pregnant misfortunes (gestational weeks 12 to 21). There is no agreement on the wide assortment of being pregnant misfortunes needed to satisfy the guidelines for repetitive Abortion (RA), yet ESHRE suggestions diagram RA as three or extra continuous being pregnant misfortunes sooner than 22 weeks of incubation (2).

Albeit the previously mentioned phrasing is widely utilized, it is also related that it is presently not generally clinically valuable. For sure, a current paper has proposed grouping in understanding to formative spans in growth (3).

Different exploration have examined the alliance of VEGF quality polymorphisms with ailments in which angiogenesis plays out a chief situation in pathogenesis, like diabetic retinopathy (4), renal phone carcinoma (5), intense renal allograft rejection(6)

The outcomes, be that as it may, have been blended. It is expressed that VEGF A - 2578 AA genotype is an opportunity thing and - 2578 CC genotype is a safeguarding segment for myocardial localized necrosis (7). In remarkable examinations, a connection between VEGF - 1154G/A, - 2578C/A, + 936C/T polymorphisms also, repetitive being pregnant misfortune had been proposed (8).

Materials and Methods

- The learn about members blanketed 50 woman instances with a records of two or greater activities of recurrent abortion (spontaneous abortion, miscarriage or nevertheless birth).The blood used to extraction of DNA through Favor gene extraction package and the usage of the namedrop for detection the DNA attention and purity forty five instances tremendous check for infection.
- To decide the polymorphisms of three type of gene . Table 1
 - Polymorphisms of gene can dictated (PCR-RFLP). Preliminaries, of the intensified of the portions can exhibit in (Table) 1. PCR of prerequisites technic displaying in Table
 - The frequencies of haplotype have been set up with the aid of the companies range amongst sufferers and manage gathering.
 - Qi rectangular and strange percentage at p esteem <0.05 are utilized in the statics evaluation of results.

وقائع المؤتمر العلمي الدولي الثاني للعلوم الانسانية والاجتماعية والصرفة
لكلية التربية للبنات - جامعة القادسية
وبالتعاون مع كلية التربية الاساسية - الجامعة المستنصرية
وتحت شعار (اهتمام الامم بعلمائها ومفكرها دليل رقيها وازدهارها الحضاري)
للفترة 30 - 31 آب 2021

Table 1- This Table refers sequencing by restriction in enzymes and sizes of Digestions.

Polymorphisms	Primer R,F	PCR	Enzymes	Size
2578C/A	5' GGATGGGGCTGACTAGG TAAGC-3'	324bp	Bg III	(A) 202bp 122bp (C) 324b (C)
634C/G	5' AGCCCCCTTTTCCTCCAA C-3'	304bp	Bsfm I	193bp 111bp (G) 304bp
936C/T	5' ATTTATTTTTGTCTGTCTGT CTGTCCGTC-3' 5' TAGGCCAGACCCTGGCAC3 '' 5' AAGGAAGAGGAGACTCTG CGC-3' 5'- TATGTGGGTGGGTGTGTCT ACAG-3'	198bp	NIa II	(C) 198bp (T) 112bp 86bp

Results and Discussion

The VEGF genotype and allele frequencies of the oversee and RA partnerships are demonstrated in (Table 2) for the four VEGF polymorphisms. The genotype dispersion of each polymorphism in the victims and controls was once inTough Weinberg equilibrium. The genotype assessment and measurable results for VEGF - 2578 C/A, - 1154G/A, - 634 C/G and - 936 C/Tare presented in work area two In every factual examination, we did 4 extraordinary correlations

وقائع المؤتمر العلمي الدولي الثاني للعلوم الانسانية والاجتماعية والصرفة
لكلية التربية للبنات - جامعة القادسية
وبالتعاون مع كلية التربية الاساسية - الجامعة المستنصرية
وتحت شعار (اهتمام الامم بعلمائها ومفكرها دليل رقيها وازدهارها الحضاري)
للفترة 30 - 31 آب 2021

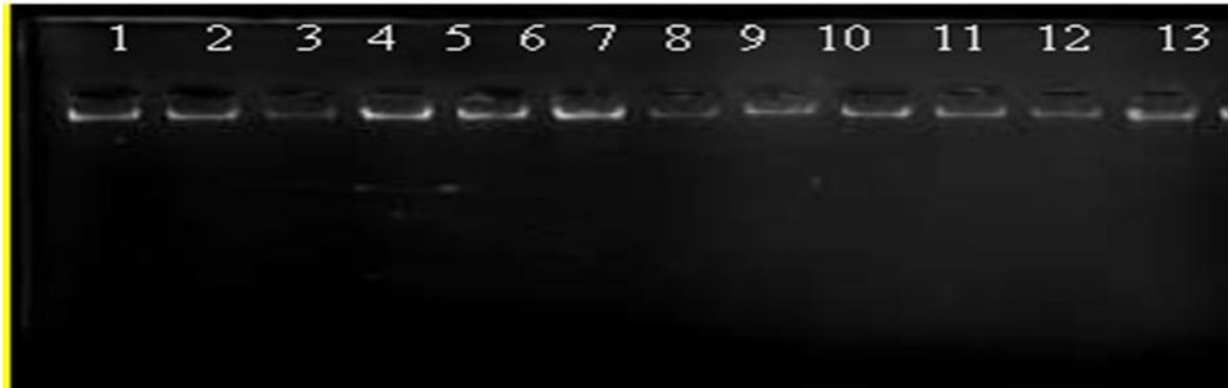


Figure 1: The pattern of Electrophoresis for gnomic DNA, (1-8) for patients group ;(9-13) for control group

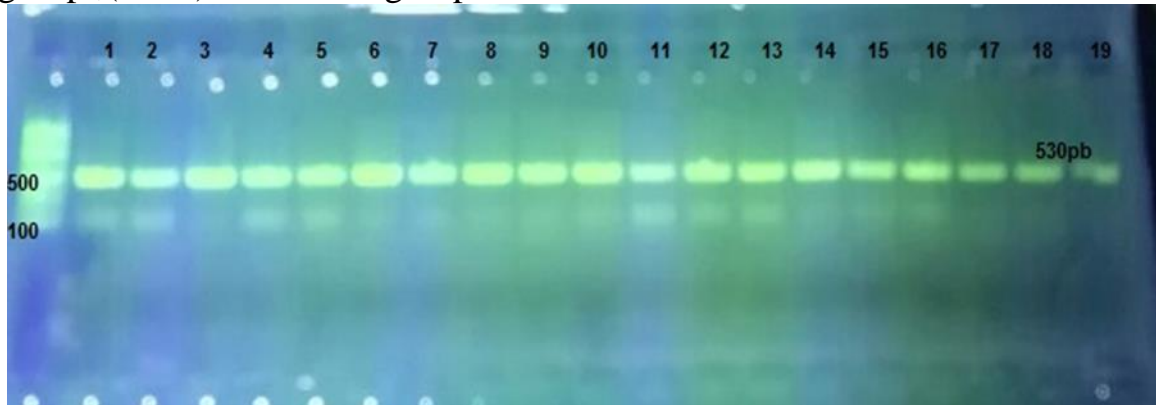


Figure 2: agars-gel electrophoresis example of PCR item for)VEGF(quality, this enhancement item one band 530 bp for the two patients (path 1-10)and controls (path 11-19)

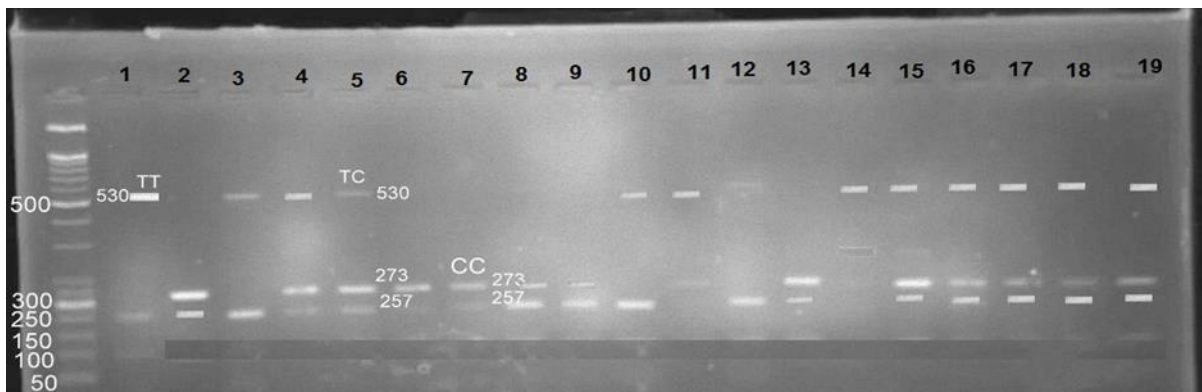


Figure 3: A garrote- gel electrophoresis example of RFLP-PCR for PCR item (530bp) with limitation compound Bsu36 I Lane1: dnA ladder 50bp, Lane 2 is showing homozygote type (TT) genotype, Lanes 3,4,5,10,11,15,16, 17,18,19 and 8 are showing heterozygote type (TC) genotype, Lanes 7,8 and 9 are showing heterozygote type (CC) genotype

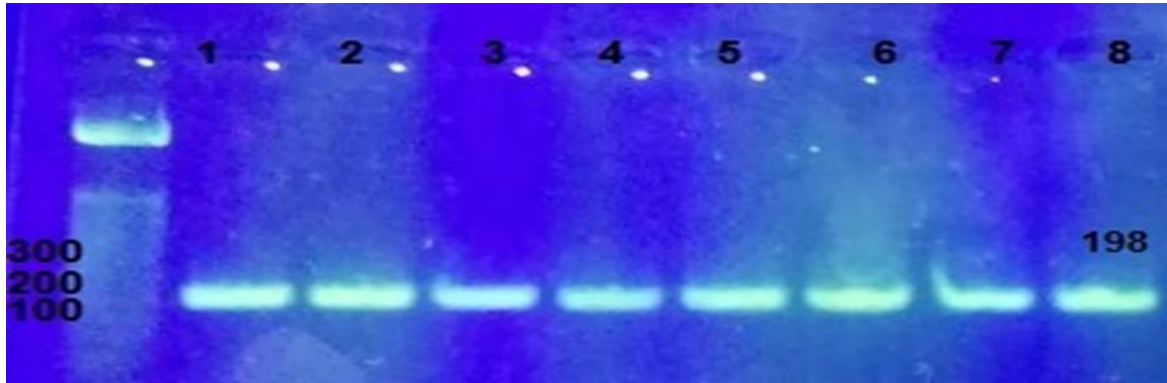


Figure 2: Agar's-gel electrophoresis example of PCR item for 936C/T quality, this enhancement item one band 198 bp for the two patients (path 1-4) and controls (path 5-8)



Figure 3: agar's-gel electrophoresis example of RFLP-PCR for PCR item 936C/T (198bp) with limitation protein Hin p I Lane1: DNA stepping stool 50bp, Lane 2 is demonstrating homozygote type (CC) genotype, Lanes 1 are showing heterozygote type (TT) genotype, Lanes 2,3,4,8,9,10,11 and 5,6,7 are showing heterozygote type (CT) genotype.

وقائع المؤتمر العلمي الدولي الثاني للعلوم الانسانية والاجتماعية والصرفية
لكلية التربية للبنات – جامعة القادسية
وبالتعاون مع كلية التربية الاساسية – الجامعة المستنصرية
وتحت شعار (اهتمام الامم بعلمائها ومفكرها دليل رقيها وازدهارها الحضاري)
للفترة 30 - 31 آب 2021

Table 2 – Genotype disseminations, allele frequencies, and assessed haplotype frequencies VEGF

Genotypes	Abortion 1 (n = 17)	Abortion 2 (n = 13)	Abortion 3 (n = 20)	Control (n = 40)	Chi-squared χ^2	P value
VEGF – 2578C/A						
CC	12 (70,5%)	6 (46.1%)	4 (20%)	18 (45%)	15.714	0.01*
CA	13 (76,4%)	2 (15.3%)	7 (35%)	7 (17,5%)		
AA Allele	2 (11,7%)	5 (38.4%)	9 (45%)	15 (37,5%)	(0.5375%)	
C , n (%)					(0.4625%)	
A , n (%)						
	(0.6852%)					
	(0.3148%)					
VEGF – 936C/T						
CC	5 (29,4%)	4 (30,7%)	7 (35%)	13 (32.5%)	* 11.0866	0.0857
CT	9 (52,9%)	7 (53,8%)	8 (40%)	8 (20%)		
TT Allele	3 (17.6%)	2 (15.3%)	5 (25%)	19 (47.5%)		
C , n (%)				84 (0.425%)		
T , n (%)	(0.5588%)			26.414		
	(0.4412%)			54 (0.575%)		
				26.414		
VEGF – 634G/C						

وقائع المؤتمر العلمي الدولي الثاني للعلوم الانسانية والاجتماعية والصرفة
لكلية التربية للبنات - جامعة القادسية
وبالتعاون مع كلية التربية الاساسية - الجامعة المستنصرية
وتحت شعار (اهتمام الامم بعلمائها ومفكرها دليل رقيها وازدهارها الحضاري)
للفترة 30 - 31 آب 2021

CC	4 (2 3 %))	3 (23%)	6 (30%)	9 (22.5%)	
CG	11 (6 4. 7 %))	9 (69,2%)	9 (45%)	18 (45%)	5.595 0.427
GG Allele	2 (11.7%)	1 (7.6%)	5 (25%)	13 (32. 5%)	
C , n (%)	54(0.55			84 (0.45%)	
G , n (%)	54(0.44	88%		26.414	
		12%)		54(0.55%26.414	

Intermittent early termination (RA) has been connected with more than one causes, notwithstanding in almost 1/2 of the cases, etiologies stay obscure. It is portrayed as the deficiency of three or more noteworthy back to back pregnancies before the twentieth seven day stretch of growth and effects 5% of couples (9)

A few examination support that quality for outstanding go between may furthermore portray a powerlessness thing for unexplained RA. VEGF has imperative jobs in vascular porousness and angiogenesis, and controls various endothelial cellphone capacities. VEGF initiates endothelial telephone multiplication, movement and separation, and animates endothelial phone endurance.

Contingent upon its antigenic and mutagenic properties, VEGF is significant in undeveloped development In this examination, we contemplated VEGF - 2578 C/A, - 1154G/A, - 634 C/G and - 936 C/T connection with repetitive fetus removal hazard. This find out about printed a measurably incredible qualification more prominent recurrence of homozygous freak genotype (AA) of VEGF C2578A gen among examples rather than control, showed with the guide of over the top chances proportion [OR= 2.18, P=<0.001.]

Brazilian (11), Greek (12)and Korean (13) contemplates, be that as it may in conflict with the exploration on North Indians (14) where an alliance among RA and each VEGF varieties used to be accounted for. VEGF-1154G/A was once as of now not related with RA among Bahraini ladies, in settlement with

a new concentrate on Chinese Han ladies , and a goliath meta-assessment including 2813 examples and 2830 controls (15). In contrast, research on Koreans and Caucasians showed association between-1154G/An and RA hazard, and homozygosis of VEGF - 1154 A/A quality used to be depicted to fill in as a helplessness component influencing the result of repetitive implantation disappointment (16).

References

1. Ishraq A. Salih (2015) (Study Specific Immunoglobulin E,G antibodies and Bacterial which Induced Asthmatics J. Regular Sciences Research, 5(7):2224-3186 .
2. Eller AG, Branch DW, Nelson L, et al. Vascular endothelial growth factor-A gene polymorphisms in women with recurrent pregnancy loss. J Report Immune 2011;88:48-52
3. Samli H, Demir BC, Ozgoz A, et al. Vascular endothelial growth factor gene 1154 G/A, 2578 C/A, 460 C/T, 936C/T polymorphisms and association with recurrent pregnancy losses. Genet Mol Res 2012; 11: 4739-45
4. Gmunt M, Herr F, Munstedt K, et al. Angiogenesis and vasculogenesis in pregnancy. Eur J Obstetric Gynecol Reprod Biol2003;110 Suppl 1:S10-8
5. Howell WM, Ali S, Rose-Zerilli MJ, et al. VEGF polymorphisms and severity of atherosclerosis. J Med Genet2005;42:485-90.
6. Qiao HM.(2007) Analysis on the single nucleotide polymorphism of ADDAM33 gene and susceptibility to bronchial asthma. J Clin Pediatr;25.
7. Traina E, Daher S, Moron AF, Sun SY, Franchim CS, Mattar R. Polymorphisms in VEGF, progesterone receptor and IL-1 receptor genes in women with recurrent spontaneous abortion. J Reprod Immunol 2011; 88(1): 53-7.
8. Ishraq A. Salih1 2020 . Macrophage Migration Inhibitory Factor (MIF) Gene Polymorphisem of Urothelial Carcinoma Patients in Iraq " Medico-Legal Update , Vol. 20. No.1
9. Sinem AY, Fatma S, Servet O H, Ahmet U, Emine C. Fetal VEGF Genotype is More Important for Abortion Risk than Mother Genotype. Int J Mol Cell Med Spring 2014; Vol 3 No 2
10. Ishraq A.. Salih1 and Rabab Omran 2018 . Vascular Endothelial Growth Factor / Vascular Permibility Factor and VEGF Gene

- polymorphisms is Detectable Rheumatoid Arthritis patients " Indian J. Pu. Hea. Rese.& Dev., 1. ,10
- .11Coulam CB, Jeyendran RS. Vascular endothelial growth factor gene polymorphisms and recurrent pregnancy loss. Am J Report Immune 2008; 59: 301-305.
- .12Israa A. Ibraheam*, Ishraq A. Saleh*, Hawraa J. Kadhim*, Zainab K.A. Al-Mahdi 2016 MOLECULAR DIAGNOSTIC OF ESCHERICHIA COLI AMONG URINARY TRACT INFECTIONS' PATIENTS USING POLYMERASE CHAIN REACTION (PCR) Pak. J. Biotechnol. Vol.13 No. (4)
- .13 Papazoglou D, Galazios G, K, Liberis V, Papanas N, Maltezos E. Vascular endothelial growth factor gene polymorphisms and idiopathic recurrent pregnancy loss. Fertil Steril. 2005; 83(4): 959-63.
- .14Lee HH, Hong SH, Shin SJ, Ko JJ, Oh D, Kim NK. Association study of vascular endothelial growth factor polymorphisms with the risk of recurrent spontaneous abortion. Fertil Steril. 2010; 93(4): 1244-7
- .15Nihad A. Salih 2020 Mechanical and Biological Effect for Adding Fly Ash to the Resin Composite. NeuroQuantology. 18(5): pp96- 100.
- .16Maan A.S., Nassar A., Mohammed H. S. 2020 Study the Effect of Thickness on the n-type Silicon/Poly(o-Toluidine Heterojunction Solar Cells The Mattingly Publishing Co ,83: 23701 - 23705

دراسة وراثية لعامل النمو VEGF(2578 C/A, 634 C/G, and 936 C/T
والتغاير الوراثي للنساء ذات الاجهاض المتكرر

اشراق عبد الامير صالح

معن عبد الامير المعموري

قسم البايولوجي, كلية العلوم للبنات , جامعة بابل
قسم الفيزياء, كلية العلوم , جامعة بابل

تقنية الانزيمات القاطعة واحده من التقنيات المستخدمة لمعرفة التغيرات الوراثي لمجموعة من الجينات للنساء اللذين يعانون من الاجهاض المتكرر. استخدم تقنية حديثة لدراسة الجينات هي تقنية الانزيمات القاطعة التي فصلت ال دنا من الدم . تمت الدراسة على 45 مريضه تعاني من الاجهاض المتكرر VEGF 2578 C/A 634 C/G and 936 C/T حيث درست قطعة الدنا باستخدام السنوب والتي تم تقطيعها باستخدام الانزيمات القاطعة لثلاث جينات حيث لوحظ ان الاجهاض المتكرر للنساء له علاقة بgIII, BsfmI, and NIaII limit enzymes for 2578 C/A, 634 mmC/G, and 936 cC/T tt 936 C/T tt 936 cC/T بالطفرة التي حصلت لجينات الثلاثة C/T tt 936 cC/T VEGF 936 C/Tt ,2578 C/A and 634 cC/G وهناك ارتباط وثيق بين جين والنساء اللاتي تعاني من الاجهاض المتكرر
الكلمات المفتاحية : تقنية الانزيمات القاطعة و التغيرات الوراثي , الاجهاض المتكرر VEGFجين