

Conclusions and Recommendations

Conclusions

Based on the results of this study, the following conclusions can be drawn:

1. The present study provides an evidence that single nucleotide polymorphisms *rs320995* in the *cysteinyl leukotriene receptor 1* and *rs730012* in *leukotriene C4 synthase* are associated with asthma in an Iraqi population and that this effect is comparable in males and females.
2. Polymorphisms *rs320995* in the *cysteinyl leukotriene receptor 1* and *rs730012* in *leukotriene C4 synthase* are important risk factors for asthma and can be useful in understanding the pathways of asthma susceptibility.
3. The genotypes TC and CC of 927 T > *CYSLTR1 rs320995* significantly increase the risk of asthma and the C allele is a risk factor in asthma. Whereas, the only CC of 444A > *LTC4S rs730012* significantly increases the risk of asthma and the C allele is a risk factor in asthma.
4. Based on the association of 927 T > *CYSLTR1 rs320995* polymorphism with asthma, the susceptibility is different between males and females in relation to the effect of the genotype on the disease.

Recommendations

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1. Further investigation into the biological functions of the *Cysteinyl Leukotriene Receptor 1* gene and *Leukotriene C4 Synthase* in relation to asthma and its related phenotypes may provide new clues for asthma therapeutic and preventive strategies.
2. Multicentre studies with larger sample sizes are required in the future.
3. There is a necessity to send the results of these studies to Iraqi health institutions because of their great impact by adding new biomarkers that may contribute to the diagnosis and treatment of diseases.



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الخلاصة

تتناول هذه الدراسة استكشاف الارتباطات المحتملة بين اثنين من التعدد الجيني، وهما $T > 927$ و $C (CYSLTR1) rs320995$ and $444A > C (LTC4S) rs730012$ ، وعلاقتها بمخاطر الإصابة بالربو في سكان العراق، على وجه الخصوص داخل محافظة واسط. تضمنت الدراسة مجموعة من ٤٥ مريضاً بالربو، مكونة من ٢٣ ذكراً و ٢٢ أنثى، ومجموعة السيطرة تضمنت ٣٥ فرداً صحياً، بما في ذلك ١٨ ذكراً و ١٧ أنثى. تمت إجراء عمليات التمييز الجيني لهذه التعددات باستخدام اختبارات تمييز TaqMan المخصصة لتحليل الأحادي النيوكليوتيد.

فيما يتعلق بتعدد $T > 927$ و $C (CYSLTR1) rs320995$ أظهرت الدراسة أن النمط الوراثي الأكثر شيوعاً في المرضى وفي مجموعة المقارنة هو TT. بالإضافة إلى ذلك، اتضح أن الأنماط الوراثية TC و CC أكثر انتشاراً بين المرضى بالربو بالمقارنة مع الأفراد الأصحاء. وأشارت النتائج إلى أن النمط الوراثي T قد يلعب دوراً وقائياً ضد الربو، بينما يمكن اعتبار النمط الوراثي C عامل خطر. وعلاوة على ذلك، ارتبط الأنماط الوراثية CC و TC بزيادة مخاطر الإصابة بالربو، في حين كان النمط الوراثي TT مرتبطاً بانخفاض احتمالية الإصابة بالربو. وفي تحليل الفرعيات، لوحظ أن النمط الوراثي CC زاد بشكل ملحوظ مخاطر الإصابة بالربو بين الإناث، بينما كان النمط الوراثي TT مرتبطاً بانخفاض مخاطر الإصابة بالربو. بالنسبة للذكور، زاد النمط الوراثي TT مخاطر الإصابة بالربو، ولكن يجدر بالذكر أنه لم يتم العثور على ذكور يحملون النمط الوراثي TC.

أما بالنسبة لتعدد $A > C (LTC4S) rs730012$ ، فإن النمط الوراثي الأكثر شيوعاً في المرضى وفي مجموعة المقارنة هو CA. أظهرت النتائج أن المرضى بالربو كانوا يتميزون بانتشار أعلى للنمط الوراثي CC، بينما كان النمط الوراثي AA أقل شيوعاً بينهم. وأشارت الدراسة إلى أن النمط الوراثي C قد يمثل عاملاً خطراً على الإصابة بالربو، بينما قد يكون النمط الوراثي A له دور وقائي. وبشكل ملحوظ، ارتبط النمط الوراثي CC بزيادة ملحوظة في مخاطر الإصابة بالربو، بينما كان النمطان الوراثيان CA و AA مرتبطين بانخفاض احتمالية الإصابة بالربو. في تحليل الفرعيات، لوحظ أن النمط الوراثي CC زاد بشكل ملحوظ مخاطر الإصابة بالربو بين الإناث، بينما كان النمط الوراثي CA مرتبطاً بانخفاض مخاطر الإصابة بالربو. بالنسبة للذكور، زاد النمط الوراثي CC مخاطر الإصابة بالربو، وكان النمطان الوراثيان CA و AA مرتبطين بانخفاض احتمالية الإصابة بالربو.

في الختام، تحددت هذه الدراسة ارتباطات بين تعددات جينية محددة ومخاطر الإصابة بالربو، مع ملاحظة وجود تباينات بين الذكور والإناث. طالما أن النمط الوراثي T لـ *CYSLTR1 rs320995* والنمط الوراثي A لـ *LTC4S rs730012* يبدو أن لهما دورًا وقائيًا، بينما يتعلق النمط الوراثي C لـ *LTC4S rs730012* بزيادة مخاطر الإصابة بالربو.



جمهورية العراق

وزارة التعليم العالي والبحث العلمي

جامعة واسط / كلية التربية للعلوم الصرفة

قسم علوم الحياة

تعدد الاشكال الوراثية في مستقبلات النوع الاول للوكوترايينات
السيستينيل $C < T$ ٩٢٧ ومخلق لوكوتريين سي ٤ - ٤٤٤ $C < A$ في
مرضى الربو في محافظة واسط، العراق

رسالة

مقدمة الى مجلس كلية التربية للعلوم الصرفة جامعة واسط وهي جزء من متطلبات نيل
درجة الماجستير في علوم الحياة- علم الحيوان

من قبل

مسار عبد مناف عبد المطلب

بكالوريوس في علوم الحياة ٢٠٠٤/جامعة واسط

بإشراف

أ.د. إنتصار حسين احمد

تشرين الأول ٢٠٢٣

ربيع الأول ١٤٤٥ هـ