

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قال الله تعالى

وَمَا تَمْشِي فِي الْأَرْضِ مَرَحًا إِنَّكَ لَنْ تَخْرِقَ الْأَرْضَ وَلَنْ تَبْلُغَ الْجِبَالَ طُولًا (37) كُلُّ ذَلِكَ
كَانَ سَيِّئُهُ عِنْدَ رَبِّكَ مَكْرُوهًا (38) ذَلِكَ مِمَّا أَوْحَىٰ إِلَيْكَ رَبُّكَ مِنَ الْحِكْمَةِ وَلَا
تَجْعَلْ مَعَ اللَّهِ إِلَهًا آخَرَ فَتُلْقَىٰ فِي جَهَنَّمَ مَكُودًا مَّدْحُورًا (39)

صدق الله العظيم

سورة الإسراء الآيات 37-39

Dedication

To my parents

To Huiam

To my Brothers

To Mohammed Ibrahim

To my Friends

To Sally and Athar

To my Colleagues

Acknowledgment

first I wish to thank Allah for Granting me the Confidence and Success to complete this study.

I would like to express my sincere gratitude to my supervisor, Dr. NassrEldin .M. A. shrif, for his advises and encouragement during this study.

Also Iam grateful to staff members of clinical chemistry department.

Also I would like to thanks senior of National Puplic Health who responded promptly to my request and provded me with many help and special thanks to my colleagues Ridamohammed and Rania MukhtarSafa Abdu alaziz. Also I would like to thanks the workers of gasoline station who accepted my Idea and help me to complete this study.

finally I wish to thanks every body contributed to success this work.

Abstract

Gasoline use is widely spread throughout the world. The effects of gasoline inhalation on human health are serious and in many cases, deadly. This is a case control study conducted during period from February to March 2015 to measure AST, ALT and ALP activities between gasoline station workers and non gasoline station workers.

Fifty gasoline station workers were selected as test group and 50 non gasoline station workers as control group (age was matched (17-55)). Blood specimens collected from both groups, and serum AST, ALT and ALP activities were determined by using autoanalyzer (centronic).

A significant increase in means of serum AST, ALT and ALP activity in smoker when compared to control group, P. value = (0.001), (0.01), (0.001) respectively. The results also showed a significant positive correlation between age and serum AST, ALT and ALP activity (Serum AST activity $P=0.0001$, $r=0.67$), (Serum ALT activity $P=0.0001$, $r=0.45$) and ALP ($P=0.02$, $r=0.23$). Statistical analysis also showed a significant positive correlation between duration of smoking and serum AST, ALT and ALP activity (serum AST activity $P=0.04$, $r=0.28$), (serum ALT activity $P=0.045$, $r=0.28$), and (serum ALP activity $P=0.001$, $r=0.44$).

The study results revealed that gasoline inhalation leads to significant elevation of serum AST, ALT and ALP. Increases in AST, ALT and ALP is proportional with duration of work at gasoline station per years, also. The serum AST and ALT activities are showed significant positive correlation with age. Serum AST, ALT and ALP activities are showed significant positive correlation with duration of work at gasoline station workers.

المستخلص

استخدام البنزين ينتشر على نطاق واسع في جميع أنحاء العالم . آثار استنشاق البنزين على صحة الإنسان خطيرة وفي كثير من الحالات قاتلة.

اجريت هذه الدراسة المقطعية في الفترة ما بين يناير الى مارس 2015 لقياس نشاط الاسبارتيت ترانسامينيز, الالانين ترانسامينيز, الالكلاينفوسفاتيز و بين العاملين في محطات البنزين و العاملين في غير محطات البنزين . تم اختيار 50 شخص من العاملين في محطات البنزين (كمجموعة اختبار) و 50 شخص من العاملين في غير محطات البنزين (كمجموعة ضابطة) , تم جمع عينات الدم من كل المجموعتين , و تم قياس نشاط الالاسبارتيت ترانسامينيز, الالانين ترانسامينيز, الالكلاينفوسفاتيز و باستخدام جهاز centronic.

اظهرت النتائج التحليل الاحصائي الى أن هناك زيادة ذات دلالة احصائية في متوسط نشاط الاسبارتيت ترانسامينيز, الالانين ترانسامينيز, الالكلاينفوسفاتيز و عند العاملين في محطات البنزين مقارنة مع المجموعه الضابطه القيمه المعنويه المطلقه = (0.001), (0.01), و (0.001) على التوالي.

ايضا اظهرت النتائج ان هناك علاقه ايجابيه ذات دلالة احصائية بين العمر و الاسبارتيت ترانسامينيز ($P=0.02$, $r=0.67$), الالانين ترانسامينيز ($P=0.0001$, $r=0.45$), و الالكلاينفوسفاتيز ($P=0.0001$, $r=0.23$).

أظهر التحليل الإحصائي ايضا وجود علاقة إيجابية ذات دلالة إحصائية بين مدة العمل بالسنوات مع نشاط الاسبارتيت ترانسامينيز ($P=0.04$, $r=0.28$), الالانين ترانسامينيز ($P=0.045$, $r=0.28$) و الالكلاينفوسفاتيز و ($P=0.001$, $r=0.44$).

اظهرت نتائج الدراسة استنشاق البنزين تسبب ارتفاع كبير في نشاط الاسبارتيت ترانسامينيز, الالانين ترانسامينيز و الالكلاينفوسفاتيز و الزيادة في نشاط الاسبارتيت ترانسامينيز, الالانين ترانسامينيز, الالكلاينفوسفاتيز و تتناسب مع مدة العمل في محطات البنزين بالسنوات, ايضا اظهرت وجود علاقة إيجابية بين نشاط الاسبارتيت ترانسامينيز, الالانين ترانسامينيز و الالكلاينفوسفاتيز مع التقدم في السن .

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List of Abbreviations

ALP: Alkaline Phosphatase.

ALT: Alanin Aminotransferase.

AST: Aspartate Aminotransferase.

cAST: cytoplasmic Aspartate Aminotransferase.

DNA: Deoxy Nucleic Acid.

mAST: Mitochondrial Aspartate Aminotransferase.

MMT: methylcyclopentadienyl manganese tricarbonyl

MTBE: methyl tert-butyl ether

NAD: Nicotinamide Adenine Dinucleotide .

NADH: Reduced Nicotinamide Adenine Dinucleotide

PLP: pyridoxal phosphate

P: predictive value

PH: degree of acidity

RFG: reformulated gasoline

RNA: ribonucleic acid

RON: research octane number

SPSS: statistical package for social science

VOCs: volatile organic compounds

W.R : working reagent