the Effect of some commonly used drugs on the efficiency of kidney by measuring concentrations of urate and creatinine in blood

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Abstract:

The aim of this studies was explained the influence of efficiency of kidney in the concentrations of urate and creatinine ,for the cases that take place in eastern part of Baghdad ,which is depend in the cases that in treatment in the kind hospital and for limited time .this studies show that any problem that may happened for this important part of the bodies it will causing change in the concentrations of this two component in the body ,this was include (99) cases for male and female and (20)cases as control group.

INTERODACTION

There are many factors that will be effect in the efficiency of kidney like succarous ,uric acid ,urate glutainine and many another influence in this research there was tow factors that examining in these studies which is urate ,and creatinine ,.the aim of this studies was explain the change that take place for this parameters when efficiency of kidney was reduced as a result of many kind of dieses that change the condition of work for this system .

The factors that is chosen in this studies effect directly in the health of human and it could be lead to agascontinues for 17th of 9 /2011 . The number of persons which is include for this studied s was (99)and that consists of (62) male and (37)of female in different age .

Urate was the main part which is produced as a result of metabolism product of proteins and that was still at constant rang in the blood of human approximately (8-23)mg/100ml),the change in concentration of it in blood is controls by kidney which is excreted the urate[1,2] .the urate involve to become either the intraocular compartments by means of diffusions resulting from the dialysis induced concentration gradient[3],or tissues poorly perfused as result of dialysis induced vasoconstriction[4].

In spite of that the level of urate was insensitive for function of kidney but the easy test make it one of the common test .this insensitivity forming by that the kidney should lose more than 50% from his functions so that to effect the

level of urate in blood ,as wall as there is another presence that may be lead for the same resolute .the dangerous of urate was represent by produced (NH_3)as a gas which is poisoning and cause coma hepatic and that will be convert to long hepatic when the amount value of it will be more value .

Creatinine which is produce divides from creatin phosphate on mussel ,and that have fixed rate by the body and that depend on masses of mussel of muscles chemically ,creatinine mainly extraction from blood by kidney in spite of found value When of it that is made by kidney on the urate .

the level of creatinine decreases or lace on kidney that will increased this level on blood thus it could be used it on blood andurate to sure the purity of it (CrCl),which is reflect or refer to glomerular filtration rate (GFR) and that was very important because it refer to efficiency of kidney .in the case of height degree of failure kidney it will be large value of purities of creatinine as a result of active secretion for creatinine should effect by the large total value of creatinine which is purify ,both semitidine and methopurium will be decreases the screation of creatinine ,and that causing increased the accuracy of high degree of failure kidneys. The level of creatinine in men was larger than women because they are more strongly skeletal muscles as compared with women . There is many research that improved that botanical had low level of creatinine.

The rate of urate with creatinine could be refer to neither problem as well as in kidney for example on the level of urate which is effect by percent of creatinine and that refer to problem for it like exhaustion of value [(5)].

There is many studies that deal with influence of creatinine and urate on kidney with different conditions ,one of this studies which is include sicken cell disease of Iraqi children at Basra for age (2-11) years these refer for urate and creatinine levels were considerably lower in sick cell disease patient ,the different in the patients mean for urea compound to the mean in the normal group was (9.64){1.95}and (8.55){1.76} likewise the difference in the man for creatinine in (hiss)group was(0.71) and in (hbAS)was (0.12)[(1)].

Chiew and fellow tasted the change that is take place in creatinine as a result of exercise during hamemodialysis on solute removal of urea ,creatinine and potassium [(6)].

Method

The sample were collected from (99)cases ,the plasma was separated from the blood by using centerfuegh apparatus ,all the sample was determined the value of spectrophotometer .and all the results were calculated and presented as the mean ± SD and the range with 95%confidence intervals ,for each parameter in the sample of cases as compared to the mean of normal value of control group that is consisted of (20)cases.

there was altitude in level of creatinine on blood which is seen when accurse damage in nephron performance ,thus this test not appropriate to identification or recognized the disease in kidney at early time , there is more appropriate method to determination the function of kidney whichcan be produced by examining purity of creatinine,age,weight,nature,as the method that proposed by American organization for sorceries disease for twenty four hours on urate.
For the urea the kit modified the following table
Table(1)the kits that used in this tast for urea.

Kit contents	BXC0122A	BXC0122B
R1Buffer	2×125ml	4×125ml
R2 Hypochlorite	1×125ml	2×125ml
R3 Urease	1×11ml	1×22ml
R4 Urea Standard	1×5ml	1×5ml

The reagent for the first type consist of sodium salicylate(62mmol/l)and sodium nitroprusside(5mmol/l),the secand continse (18mm0l/l),with (750mmol/l),the third was consist of less then (5000 U/l).
Creatinine in alkaline solution reacts with picrate to form a coloured complex ,

Result and Discussion

The sample of investigation for research was consist of (99) persons which include (37) female and (62) male, and the control group was consist of (20) personae. .this sample was taken from eastern part of Baghdad these cases was recorded from (5-7-2011) to (17-9-2011) in AL Kandy hospital and that was organized in the following table.
Table (2): range of age and number of male and female and total summation for the studies.

Rang of age	Numb/male	Numb/fame	Summing	
10-20	2	1	3	
20-30	5	1	6	
30-40	7	2	9	
40-50	20	14	34	
50-60	13	9	22	
60-70	14	9	23	
70-80	1	1	2	

The following figure explains the distributions of this effect in the above age.

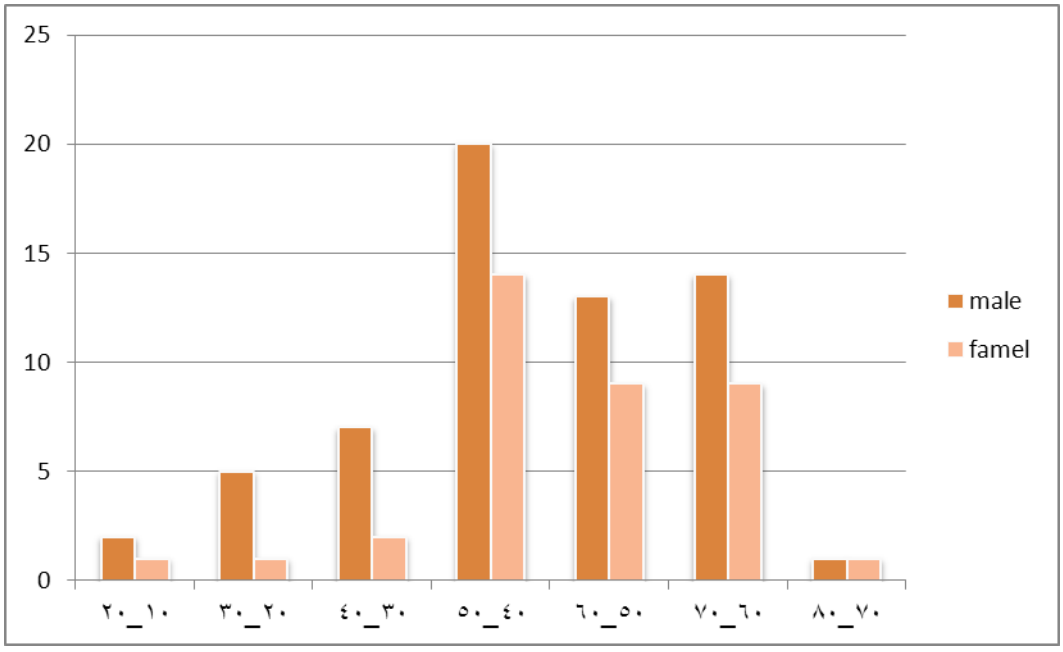

Figure (1) the relation between rang of age (x-execs) and number of cases(y-excess) for time of reassures.

In the following figure there is relation for total number of cases with range of age.

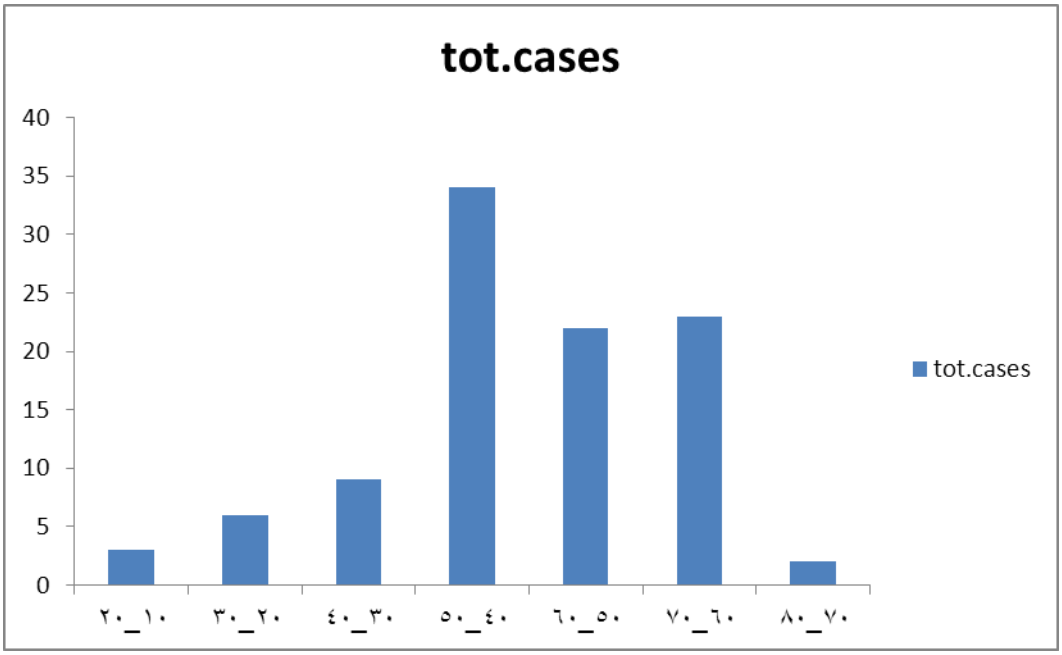

Figure (2) the rang of age (x-excess) and total number of cases (y-axes).

From this table and figure it was clear that:

1-the greatest percent of problem that is accruing for kidney in rang age (40-50) for male and female.

2-the percent of male that severed from kidney was more than of female.

In the following table which is explain the average of urea and age for cases that is included in this research.

Table (3) explain age and sex and average of urea that is measured in this studies.

Average of age	Sex mal	Average of urea*	Sex female	Average of urea*
10-20	2	66.6-57.8	2	24
20-30	5	18.8-36.3	1	28
30-40	7	16.8-26	2	12-16
40-50	20	15-27	14	16-22
50-60	13	18-28	9	18-30
60-70	14	26-50	9	21-43
70-80	1	30-50	1	27-50

*this value was measured by (mol/L).

The normal value of urea was (3.3-7.5mmol/L) which is equal to (8.3mg/100ml), the range that is measured in this studies refer to higher value as compared with normal value but this cannot depend to decided the type of problem for the all system .and it should refer here that it was recorded high value more than the range that is in the table above especially in the range age of (40-50), and less from it in (30-40).

For the value of keratinize the number of cases that have value more than the normal value (62-124µmol/L) of creatinine was four cases which is have more than (170µmol/L),this value was preoperational inverse the value of urea, when it will get low value .

In the following table below which is explain the mean value of urate and creatinine and the compression with control group that is given for the largest average of these studies.

Table (4) mean value of creatinine and urate for age between (40-50) of studies and control group.

parameter	sex	No	Value of pation	No	Control group
Urate	mal	20	20.2±4	5	9.2±0.9
Urate	female	14	24.5±6	5	9±0.7
creatinine	mal	20	87.5±34	5	73±14
creatinine	female	14	60.6±44	5	49±11

Measuring the mussel of creatinine was simple test and represent more uses indicator for efficiency of kidney .there was altitude in level of creatinine on blood which is seen when accurse damage in nephron performance ,thus this test not appropriate to identification or recognized the disease in kidney at early time , there is more appropriate method to determination the function of kidney which can be produced by examining purity of creatinine ,it could be purify creatinine in accurate by using concentration mussel of creatinine with some or all the following influence ,age,weight,nature,as the method that proposed by American organization for sorceries disease for twenty four hours on urate.

The usual reference rate for human of about (0.5-1)mg/dm^3 {90-45µmol/lit} for female and (0.7-1.2mg/dm^3){110-60µmol/lit} for men. the fundamental line for serum creatinine about (0.2µg/dm^3)={150µmol/lit} formal indicate for natural function of kidney to constriction in mal,and (1.2µg/dm^3)={ 110µmol/lit} could be refer to failure kidney at large age of female[7].and all so the activity of urate can be explained in forming gas of NH_3 which is dissolved in blood and that when increased in blood it will causing coma hepatic and at first state not continues but when this concentration increased in blood more than in the first cases it will be lead to coma hepatic for long time and that cause to death.

Urea and creatinine are bio-indicators of the renal function [8]and all so it was notice that it may causing to predispose animals to high risks of colorectal cancer [9].

The decreases in serum creatinine concentration as observed[10]may cause to predictive of glomerular hyperifiltaration which is associated with increases metabolic risk [11]and that was notice in mast the cases in this studies .

All of this result in this studies was show that any influence in efficiency of kidney that will be sure effect in the concentration of the two parameter in this cases[12,13] this will change the chemical composition for the blood and make the system of the work for the human in a new condition that could be very easy to be very dangerous and causing many interference negative effect for all the systems. In anether studies [14]the drugs can be able to increases or decreases the serum urate level. Many hypouricemic compound ,sulfinpyrazone ,and lopurinol are considered in many resurch and in further detil .

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الخلاصه:

الهدف من هذه الدراسه وهو بيان تاثير كفائه الكليه على تركيز اليوريا والكرياتينين ولحالات اخذت لجزء معين من محافظه بغداد زوالتي اعتمدت على اخذ عينات من مستشفى الكندي ووللفتره المذكوره في متن الدراسه زالدراسه بينت ان اي تأثير يحصل في أداء الكليه بأعتبارها جزء فعال جدا في الجسم فأنه بالتالي سيسبب تغيير في تركيز اليوريا والكرياتينين,تضمنت الدراسه (99)حاله من الذكور والاناث مع (20)حاله كمجموعه مقارنه تتضمن كذلك ذكور واناث.