

(PU – 9100 x philips)

)

(\ 4

Radiometer PH m 63

(2)

digital

(6)

20 :

(8)

(7)

20

20

(9) .(LDL)

10 .

25

)

30

(2)

(/

(20-)

:

(10)

)

(

(11)

(12)

(4) (3)

(17) . (10 : 1)

(13)

()

:

(14)

510

(15)

(18) 505

(HDL-Chol)

(16)

(VLDL , Chylomicrons, LDL)

Phosphotungstic

}

(19).

{

(VLDL- Chol.) :

(21) Wilson

(20) Friedewald

(LDL-

:

. Cholesterol)

0.2 / 0.05 :

. / 0.1 / Kaplan Watton

(GPT) (GOT) (22)

1.0 1.2 1.6 . 510

. 0.2 0.7

. IU / L GOT

\ 0.05

\ (0.03) . IU / L GPT

\ (0.03) (23) (Kind , King)

\ 2.72

\ (2.21) . 510

. \ (2.18) :

\ 0.054 (24)Berthelot

\ (0.038)

\ (0.038)

\ 1.0 . 580

\ (0.75) :

\ (0.75)

\ 1.14 {SPSS}

\ (0.96)

. \ (0.91) (LSD)

(30) .{P < 0.005}

\ 1.15 :

\ (1.21) :

.((1)) \ (1.28)

{LSD}

.%5

)

(

(112) \ (119) . \

46 (HDL) (25).

\ (59.0) \ (26) .

\ (60.0)

{LSD} .((2)) RNA DNA

(27). {Glucose -6-phosphate dehydrogenase }

(28).

Lipoprotein {LLP} (Cu \ Zn)

{VLDL} lipase

. (29)

(30) :

(29) {MI} (31) (LDL)

{VLDL}

{LDL}

(32) . {HDL}

HDL \ 248

HDL) \ (185)

(33) HDL . \ (171)

\ 159.0 (LDL)

(34) . \ (102)

. \ (90)

\ 33.8 {VLDL}

(35) . \ (23.8)

: \ (22.6)

\ 168

(GPT,GOT)

{LSD}

:

GPT,GOT

27 GPT
 \ 34.3 \ (21.8) \
 (25) \ (25) . \ (21.7)
 . ((3)) \ \ 14.1 GOT
 \ (11.6)
 Glutamin Arginine (3) . \ (11.4)
 (40) {LSD}

(41) . {Glomerular filtration rate (GFR) }

(36) (4) .

{LSD}

(36) (32).

(37) . GPT

REFERENCES

- [1] Smith T.J &Schneider ,
 "Occupational hygiene In:
 ALP
 .
 \ 40.0
 \ (39.5)
)) \ (39.5)
 .Philadelphia lippincatt
 Williams and Wilkins , 161-
 180,2000. .((3
- [2] Saad ,Al N. , National Journal of
 chemistry ,(5) pp (6-10) ,
 2002. (38)
- [3] Tietz, N. W , A. Carl and A. Burtis
 , R. Edward and Ashwood
 ,"Clinical Chemistry "3rd Ed
 (39)
 ., vol.(2) , 1999.

- Hidalogo ;p.Anal Abst. 52. (1) ; 4, 1990.
- [17] Milner, B.A and Whiteside,P.J., "Introduction to Atomic Absorption Spectrophotometry ",2nd Ed., Pye Unicam ,Ltd , England , 1981.
- [18] Allain, G.C., L.S Poon and C.S.G Chan , Clin Chem . ,20 ,470 .1974.
- [19] Fossati ,P.and Prencipe, L., Am. J. Pathol., 107, 397,1982.
- [20] Friedewald , W.T , R.J. Levy and D.S. Fredrickson ; Clin Chem . 18, pp(499-509) ,1972.
- [21] Zincuki V., Malsevs G.S.,Grishauk. G.V. ,Zh-Anal . Kim.,42(6),pp(1088-1091),1987.
- [22] Kaplan , L.A. and pesca ,A.J .," Clinical Chemistry , Theory , Analysis , and Correlation ,"2nd ED., Mosby Co .,USA. 1989.
- [23] Kind ,P.R.N.and King E.J.,J.Clin-Path,7,322,1954,Cited by Wotton I.D.P., Raven Press, New York,1984.
- [24] Underwood ,T. "Automated Status / Routine Analyzer systems operation and Service instructions , Beckman , USA,1979.
- [25] Frank , A., R. Danelsson, B. Jones , Sci. Total Environ., 17,294(1-3),pp(133-142),2000.
- [26] Huang, Y.L. , W.C . Tseng, T.H. Lin, J. Toxicol -Environ-Health, 23,62(4),pp(259-67),2001.
- [27] Messer, R.L., Lucas-Dent-Mater-Mag,16(3),207,12,2000.
- [28] Gorell JM., C.C. Johnson, B.A. Rybicki,E.L. Petron, 20, (2-),pp(239-47),1999.
- [29] Atia M.M.;J. Far. Med. Baghdad , 38 (3),pp(262-265),1996.
- 2002 [4]
- [5] Nickel and it's inorganic compounds ; Health hazards and precautionary measures, published by The Health and safety Executive (HSE) , 1997.
- [6]Kruseo Jarres J.D., "Rare Essential trace Elements" , Annales Nestle, 52 , pp (138 -141), 1994.
- [7] Nicala ,S. and Pauline A. , J. of pathology , 189 , pp (215-221), 1998.
- [8] Salman D. and A fadhil A. , Ann. Coll. Med. Mosul , 16, pp (59-66) , 1990.
- [9] Retsky K.L., Chen K. , Zend J. and Fvei B. , Bio. Med. 26 (1-2) , pp (90-98), 1999.
- [10] Aggett P.J ., "Zinc in : Trace Elements in Infancy and Childhood ", 52(3), pp (94-106), 1994.
- [11] Cheng N., Hu.X.,Jiang Xuebas.,9(3), pp (265-269),1987.
- [12] Hu.s;Guo;G.Fenxi shiyansh ,Anal.Abs., 6(2), pp (27-28), 1987.
- [13] Rodriguez , M.P. , A. Narizano, V . Decezylo, A.Cid ,At. Spectroscopy , 10(2), pp (68-70),1989.
- [14] Ramos M.C., Sanchez M.L., Rabadan M. , Quim.Anal , 6(3), pp (362-367) , 1987.
- [15] Kumamaru T. , Murrakami K., Nakato F., Sunaharo H., Kiboku M., Matsuo ,H., Anal. Sci., 3(2), pp (161-165) , 1987.
- [16] Capitan F., Capitan Valdelvey , L.F., Gines Fernandez Valdivia D., Espinosa

- [36] Claverie, C. , R. Carbella, D. Martin, C.Diaz, Biol-Trace, Elem-Res, 75(1-3),pp(1-9)2000
- [37] Ogra.Y. , Y. Komado , K .T . Suzuki , J. Inorg. Biochem. , 30,75,(3),pp(199-204),1999.
- [38] Messer, R.L., Lucas, Dent-Mater-Mag, 16(3),207,12,2000
- [39] Sultan T.R.,, M.Sc. Thesis,Collge of Medicine ,Baghdad Univ.,1986
- [13] Rafiei M., M. Boshtam and Saraf Zadegam ;East Medittr. Health, J. Sci ,(4),pp (766_777)1999.
- [32] Frank,A., R. Danelsson, B. Jones , Sci. Total Environ., 17,294(1-3),pp(133-142),2000.
- [33] Gordon T.,W.P. Costeui ,M.C. Hjortland , W.B. Kannel, Amer. J. Med.(62),pp(707-710),1977
- [34] Noger T., Medicinal Chemistry ,Biochemical Approach 2nd Ed.,Oxford Press, New York, 1988.
- [35] Anderson, R.A., N.A.,Bryden M.M.Polansky, J. Am., Coll-Nutr.,16(3),pp(273-279),1997

-8

2001-2000 10

- [40] Alon H., R. Janet, M. Donald , " Practical Clinical Bio Chemistry" 6th Ed .,London,1988.
- [41]Catto G.R., J.A.R. Smith,"Clinical Aspects of Renal Physiology" , 1st Ed. ,London, 1981.

(1)

معدل تركيز (ملغم / لتر)						الحالات
الكارصين \ النحاس	الكارصين	النحاس	النيكل	الحديد	الكروم	
1.15	1.14	1.0	0.054	2.72	0.05	الطلاء الكيميائي
1.21	0.96	0.75	0.038	2.21	0.03	السيطرة الداخلية
1.28	0.91	0.75	0.038	2.18	0.03	السيطرة الخارجية

(2)

(/)					الحالات
VLDL	LDL	HDL	كليسيريادات	كوليستيرول	
33.8	159	46	168	248	الطلاء الكيميائي
23.8	102	59	119	185	السيطرة الداخلية
22.6	90	60	112	171	السيطرة الخارجية

(3)

(/)	(/)	الحالات

B.Urea	ALP	GPT	GOT	
34.3	40.0	27.0	14.1	الطلاب الكيميائي
25	39.0	21.8	11.6	السيطرة الداخلية
25	39.0	21.7	11.45	السيطرة الخارجية

STUDY OF BIOCHEMICAL EFFECT THE LEVEL OF SOME TRANSITION ELEMENT MEASURED BY FLAME ATOMIC ABSORPTION TECHNIQUE ON THE HEALTH OF EXPOSED WORKER

Tahseen A.Zedan Mahmood M atea Sattar R. Majeed

E mail:sci_col@yahoo.com

ABSTRACT: This research is a trial to study the exposed effect of some trace elements {Chromium , Iron , Nickel , Cupper and Zinc} which have been used in painting on the biological functions of liver , Heart and Kidney of workers in contact with their vapors , in addition to their levels in the body.

Flame atomic absorption technique had been used for the measurements of trace elements as well as Cu / Zn ratio level in serum . The trace elements level increased significantly ($P < 0.05$) while the Cu/ Zn ration decreased

The Biochemical test was carried on technicians and administrators for the interior control and volunteers as external control.

Blood Bio-test was carried out including the concentration of total Cholesterol, Triglyceride, High density lipo protein {HDL} ,Low density lipo protein {LDP} and very Low density lipo protein {VLDL}.

The results of this study showed that: Cholesterol , Triglyceride and Low density lipoprotein increased significantly ($P < 0.01$) , while high density lipoprotein decreased significantly ($P < 0.05$)

Serum Enzymes including GOT, GPT, Alk. phosphate, and urea activity were also done. The results showed that Enzyme activity: GOT, GPT, Urea increased significantly ($P < 0.05$) , Alk phosphate show insignificant increase ($P < 0.05$),.