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ABSTRACT

The study included the determination of the antioxidants levels of acute lymphocytic leukemia and chronic myelocytic leukemia patients in Mosul city (Before and after taking vincristine (Chemical drug)). The investigated antioxidants were: glutathione (GSH), uric acid, ceruloplasmin (Cp.), vitamin E, vitamin C and malondialdehyde (MDA). Acute lymphocytic leukemia (9) and chronic myelocytic leukemia () and control group of the same age in each group (4) included in the research .

The results showed that there were a significant decrease ($P \leq 0.0001$) in (GSH, vitamin E and vitamin C) levels and a significant increase in the level of MDA, Uric acid and Cp. for acute lymphocytic leukemia and chronic myelocytic leukemia patients when compared with the control group.

Moreover the (GSH, vitamin E and vitamin C) levels were increased significantly and the level of uric acid, Cp. and MDA decreased significantly ($P \leq 0.0001$) in acute lymphocytic leukemia and chronic myelocytic leukemia patients as in comparison with its counter part before and after drug intake.

() . C E
 () () ()
 E :

(P ≤ ,)
 E (P ≤ ,) C
 :

- () Haemopoietic
 ()
 : Acute leukemia ■
 Acute myelocytic leukemia
 . Acute lymphocytic leukemia
 : Chronic leukemia ■
 Chronic myelocytic leukemia
 . Chronic lymphocytic leukemia

Vincristine

Leurocristine

(*Vinca rosea*) *Catharanthus roseus*
.Microtubule

(5)

Reactive oxygen species (ROS)

()

Antioxidants

()

Oxidizable substrate

Prooxidants

Antioxidant

() defense system

Vincristine

()

:

()

()

(-7)

(

)

Vincristine

/ ,

...

() ()
) ()

.(

(-) Venous blood
() (xg)
()

:

()

[5,5- dithio bis (2-Nitrobenzoic acid)] DTNB Ellman's reagent
(SH group)

(Phosphotungstic acid method)

()
() 700

(Cp.)

- Cp. Para-phenylenediamine (PPD)
530 (Blue-violet)

()

E

Fe⁺³ (Emmeric – Engle Reaction)
- - Fe⁺² (Tocopherol) Fe⁺²

-

α - α -Dipyridyl

() 520

(C)
(Dehydroascorbic acid)

4-2 (Diketogluonic acid)

4-2-

()

()

(Thiobarbituric acid (TBA))

532

:

SPSS for windows 15

Mean(x)

(t-test) (t)

Standard Deviation (SD)

Significant

($P \leq 0.05$)

()

-

:

($P \leq ,$)

(2) (1)

(MDA)

:

C

E

(GSH) :

()

()

Ahmad)

...

(MDA)
(Protein carbonyl)

(C E (GSH) :)

(N=29)	(N=29)	(N=19)	
, \pm ,	, \pm ,	, \pm ,	()
, \pm^* ,	, \pm^* ,	, \pm ,	(/)
, \pm^* ,	, \pm^* ,	, \pm ,	(/)
, \pm^* ,	, \pm^* ,	, \pm ,	(/)
, \pm^* ,	, $\pm^*0.55$, \pm ,	(/) E
, \pm^* ,	, $\pm^*0.35$, \pm ,	(/) C
, \pm^* ,	, \pm^* ,	, \pm ,	(/)

.P ≤ , \pm - *

(N=31)	(N=31)	(N=24)	
, \pm ,	, \pm ,	, \pm ,	()
, \pm^* ,	, \pm^* ,	, \pm ,	(/)
, \pm^* ,	, \pm^* ,	, \pm ,	(/)
, \pm^* ,	, \pm^* ,	, \pm ,	(/)
, \pm^* ,	, \pm^* ,	, \pm ,	(/) E
, \pm^* ,	, \pm^* ,	, \pm ,	(/) C
, \pm^* ,	, \pm^* ,	, \pm ,	(/)

.P ≤ , \pm - *

C E GSH

()

()

()

(Cp.)

Cp.

()

(Cp.)

()

Sürmen-Gür)

%

()

()

Vincristine

-

:

() ()

C

E

GSH

()

MDA

()

Heaney

(Doxorubicin, Cisplatin, Vincristine, Methotrexate, and Imatinib)

C

.C

...

() Predrag)
MDA

Nitric oxide radical

Superoxide radical anion

(Vincristine)
C E GSH

C E GSH
(H₂O₂ OH⁻ O₂⁻)
()
()

-S Glutathione peroxidase (GPx)
() Glutathione S-transferase

) (Chelating)

(Haber – Weiss reactions Fentone reaction
() ()

Lipid peroxidation

(E,A,C)

()

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