FEATURES OF INFRINGEMENT OF RESPIRATORY BLOOD FUNCTION AT PERSONS, DAMAGED AFTER CHERNOBYL ACCIDENT.

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The study of gears of infringement of biochemical parameters, connected with maintenance of main function of respiratory system- delivery of to metabolic tissues and conclusions forming in constitution carbonic-acid at ills with postradiation encephalopathy is interesting and little-learning task in connection with complexity of metabolic changes at effects of ionizing radiation, availability of neurochemical conversions as a result of such effect, infringement of regulatory gears of constitution.

Actuality of given task is caused by necessity of dinamical check condition and execution duly correcting measures to persons, damaged at liquidation of consequences of Chernobyl failure.

The infringements physiological processes in organism are especially dangerous for the brain tissue, sensitive to effect of ionizing radiation. The influence of radiation, hypocsia entail the infringement of processes of synthesis of structural components of plasmatic membranes, resulting in changing in structure of membrane layers, prescription properties of membranes, processes inside and inter-cellular transport [1].

With the purpose of study of influence of infringements some biochemical parameters on maintenance respiratory the processing was conducted of function of blood at ills with postradiation encephalopathy the biochemical analyses 110 patients, damaged at liquidation of Chernobyl accident. The change of biochemical parameters at va - rious expressing of infringements of pressure of oxygen and carbon dioxide in veinus blood was evaluated. The received data on changes, potassium and sodium in plasma of blood, acid of environment- pH, sulphgidril groups, average molecules and etc. are adduced in tab. 1, 2.

Табл. 1 SOME BIOCHEMICAL PARAMETERS AT VARIOUS EXPRESSION OF INFRINGEMENTS OF OXYGEN PRESSURE IN VEINUS BLOOD

Parameters	pO2 < 35	pO2 35-45	pO2 > 45
Potassium, plasma	4.09 + 0.05	4.35 + 0.136	4.25 + 0.156
Sodium, plasma	142.6 + 0.59	160.9+18.03	143.4 + 0.94
pH	7.3 + 0.007	7.33 + 0.011	7.31 + 0.009
Middle molecules	0.35 + 0.01	0.31+ 0.023	0.31 + 0.04
AlAt	0.47 + 0.013	0.44 + 0.034	0.48 + 0.07
AcAt	0.41 + 0.016	0.36 + 0.034	0.44 + 0.06
Sulfgid. groups			
- general	321.85+13.28	344.09+29.61	448.98+22.36
-without-protein	86.82 + 3.72	84.66 + 8.2	89.54 +2.36
- protein	214.54+12.08	268.9 +34.76	359.45+21.02

Табл. 2 SOME BIOCHEMICAL PARAMETERS OF VARIOUS EXPRESSION OF CARBON DIOXIDE PRESSURE IN VENOUS BLOOD

Parameters	pCO2 < 35	pCO2 35-45	pCO2 > 45
Potassium, plasma	4.06 +0.069	4.24 + 0.09	4.14 + 0.078
Sodium, plasma	141.6 + 0.79	153.1 + 9.01	142.9 +0.65
pH	7.3 + 0.075	7.34 +0.007	7.29 +0.005
Middle molecules	0.39+ 0.015	0.31 + 0.012	0.32 + 0.016
AlAt	0.54+ 0.036	0.43 + 0.04	0.45 + 0.03
AcAt	0.44+ 0.031	0.38 +0.024	0.39 + 0.02
Sulfgid. groups			
- general	358.26+17.66	319.26 +24.9	318.54+21.94
-without-protein	94.64+ 7.59	81.29 +3.76	86.75+ 5.69
- protein	263.77+18.02	238.98+22.05	231.13+21.64

Is received, that at oxygen deficit the processes endogene intoxication, acidosis and deficits of potassium are aggravated.

The low pressure of carbonic acid in blood is possible to be regarded as the certificate of unsufficient activity of metabobo-

lic processes with accumulation in blood underoxidizing products.

The marked normalization of parameter of concentration of hydrogen ions (pH) for significances of pressure of oxygen and carbon dioxide in venous blood within the limits of norm speaks about importance of given parameter for valuation of processes of transport of carbon dioxide and in organism.

For postradiation encephalopathy the tendency to decrease the parameter of acid environment- pH was marked. The parameters, informative for infringement the correlative communications with changes of acid of environment, are adduced in tab. 3.

Tab. 3 CHANGE SOME BIOCHEMICAL PARAMETERS AT INFRINGEMENTS of PARAMETER OF ACID OF ENVIRONMENT - pH

Parameters	pH < 7.35	pH >=7.35
Protein gener.	65.002 +0.69	67.78 + 0.986
Middle molec.	0.391 + 0.02	0.32 + 0.011
AmAT	0.54 + 0.03	0.442 + 0.024
AcAT	0.45 + 0.03	0.39 + 0.016

The increase of average molecules at decrease of parameter pH speaks about importance of this parameter for judgement about expression of processes endogenous intoxycation.

Connection with the above-mentioned constructs the mathematical model of dynamics the pressure of oxygen in various tissues of organisms and the regimes of regulation in dependence on kind external and internal indignations are investigated.

The conducted mathematical simulation permits to receive the additional criteria of character of clinical course of postradiation encephalopathy in dynamics of treatment.

REFERENCES

1. Postradiation encephalopathy. Experimental researches and clinical supervision (Institute of Neurosurgery. Monograph). - Kiev, 1993. - 70 p.