

## The Arythropoietic Effects of the Tryptophane's Metabolites

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The study was intended for establishment of the mechanism erythropoiesis suppression by the tryptophane alimentary deficiency. The preliminary data have showed the nature of the tryptophane influence on the erythropoiesis isn't constitutional only. Its role is the source of the big number of biologically active metabolites.

The next method and models have been applied. The dose-characteristics of erythropoietical effects of the tryptophane and its derivatives were obtained under normal diet, the deprivation by the protein or the thryptophan only. Separate and complex effects of metabolites (5-hydroxytryptophane, 5-hydroxyindolacetate, kynurenine, serotonin, tryptamine) were estimated de using the erythropoiesis-depressed model (polycitaemia).

The factor- analysis mathematical method (the central orthogonal complex plan) has been used to find the interaction effects among the metabolites (metabolites). Intensity of erythropoiesis was examined by the nucleus acids level in the reticulocytes in the whole blood (using the author's methodical elaboration).

The results of measuring of the dose-depending erythropoietical activity (according to hormon erythropoietine level in the blood plasma) were quite agreed with the results on of the erythropoiesis intensity measuring. The data show the strong evidence for hypothesis that the level of tryptophane's influence in the erythrone is the regulation link.

Unlike physiological doses, subphysiological doses of the tryptophane weren't accompanied by the erythropoiesis stimulation. That's why the hypothesis about mediator role of it's metabolites was suggested.

The investigation of the erythropoiesis-stimulated effects of the individual thryptophane's metabolites was realized. Some independent effects for kynurenine, 5-hydroxyindolacetate, 5-hydroxytryptophane were obtained. On the contrary, strong erythropoiesis-stimulated influence has been marked for the serotonin and the tryptamine under physiological doses (0,1 and 0,25 mg/ kg b.w. accordingly).

The strong amplificant interaction effect between serotonin and kinurenine was obtained. The data may serve as the indication of a synergical nature of their influence on the erythropoiesis. At the same time, the evidence of no interaction between serotonin and tryptamine was obtained.

The polycytaemic model was used to compare the serotonin's effect with the tryptamine's one. The data obtained are shown the difference between them in the serotonin's favour. The especially essential fact is that erythropoietical effect of the serotonin has been realized independently from the oxygen-providing and are show the good agreement with the tryptophane erythropoiesis-stimulated effect.

The conclusion is the serotonin plays the leading role between tryptophane's metabolites in the erythropoietic control mechanism.