

I wish to say a few more words about the remedy mentioned in Dr. J's paper. The remedy used was a mixture or a combination of amino acids and Vitamin B-complex including choline.

I published a preliminary report on various disorders treated with the above medication. Several thousands of cases of nervous disorders, fatigue and organ neurosis were under observation. Some of the therapeutic objectives were: Rehabilitation of war veterans and the convalescence after infection and surgical intervention.

As a result of these investigations, it has been quite evident that some of the nervous disorders, such as organ neurosis, fatigue, premature aging and shock differ from each other only in the matter of degree.

As shock is the best studied condition in extensive animal experiments, we can draw important conclusions from disturbances of metabolism, of liver, kidney and of the skeleton muscle.

In the treatment of hearing disorders with this new compound it makes no difference by what the original damage was caused. Whether this was the result of infection, neurological changes or the like, or whether the damage involved blood vessels or bone cells. It may not even matter whether the primary damage was done to the central nervous system, as this medication will not only affect the disturbed organ but, at the same time, will benefit the disturbed organism as a whole.

The AA have enzyme functions and serve at the same time as tracers of the nerve tissues for the vitamins. If one considers that these AA protect normal liver metabolism, and contribute to the restoration of liver disturbances, this is in the true sense a psychosomatic approach in the treatment of hearing disorders.

There is a very interesting experiment which proves my theory of inter-relationship between hearing disorders and shock. These are recent tests in which shock could be produced through rotation of rats in fast moving drums. During these experiments it could be shown that nutrition poor in protein could alone by itself cause a pre-shock condition, even without the trauma to the labyrinth through rotation. A reduced protein intake or the inability of the liver to split protein into AA acids is essentially the same disturbance.

You remember that Dr. Jellinek mentioned the improvement of hearing disorders through breathing exercises. This can well be understood in taking into consideration the following facts: Lack of oxygen is equivalent with shock regardless whether this lack is caused through poor circulation or reduced oxygen in the air. It is present in fatigue, pre-shock condition and shock itself impairs the normal function of all tissues.

In the past nine years many authors have published experimental work on the relationship between avitaminosis and hearing disorders.

A last word on the immediate action of the injected compound. It is caused through the availability of necessary elements for normal function of the nerve tissue itself. These products act in the sense of a normalization of the liver metabolism and enables it through that

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short breathing spell to resume normal functions. In short, the immediate results represent the benefit of the hearing organs through feeding necessary metabolic elements into the hearing organ itself. The final and lasting improvement represents the rehabilitation of the whole organism.