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*The Effects of Herbal Remedies on the Neurotransmitter: Acetylcholine*

The purpose of this experiment was to determine if the common herbs ginseng, ginkgo, and valerian induce an effect on the level of the neurotransmitter, acetylcholine, in the tissue of Ampullariidae snails. This method was done through dosing the snails through a 2x concentration in their aquatic environment for a period of one week. After the treatment was over, the snails were tested using the Ellman method. The snails were euthanized and removed from their shells, whence their flesh was used to make a tissue homogenate. A spectrometer was used to measure the level of acetylcholine in the snails. Results were constant for the control group but varied with the valerian, ginkgo, and ginseng groups. The mean absorption rate was found for each group and compared with the other groups. The control group had the greatest absorption rate. Valerian had the second greatest absorption rate with ginseng and ginkgo having lower rates than the above. It was hypothesized that valerian would induce a lower acetylcholine level than the control because valerian is marketed as a tranquilizer. This hypothesis was supported. It was hypothesized that ginseng and ginkgo would induce higher levels of acetylcholine than the control because both of these herbs are marketed as stimulants. The hypotheses for ginseng and ginkgo were rejected.