

## **A Little Something You Should Know About Memory Support Complex (Adeeva)**

**James Meschino DC, MS, ND**

In formulating Adeeva's Memory Support Complex supplement I was careful not to use natural agents that can lead to a bleeding disorder, such as Ginkgo Biloba or Vinpocetine (the lesser periwinkle). Although these natural herbs have been shown to improve blood flow through the cerebrovascular arteries and have improved memory and cognitive function in individuals with dementia and other types of cognitive impairment, Ginkgo Biloba and Vinpocetine are also associated with increased risk of bleeding disorders into the brain. This is because Ginkgo Biloba and Vinpocetine are richly endowed with coumarins, which are powerful anti-coagulants. There are reports of bleeding disorders into the brain with Ginkgo Biloba supplementation and the potential for the same problem to occur with supplementation with Vinpocetine is very biological plausible. Of course, the patient is at even greater risk if they are already taking an anticoagulant drug, including the simple practice of taking an aspirin a day to reduce heart attack, as many doctors instruct patients to do.

I also did not include the ingredient known as DMAE (dimethyl-amino-ethanol), which may improve memory, but is associated with a constellation of frequently reported undesirable side effects.

Instead, Adeeva's Memory Support Complex contains other proven natural ingredients that boost memory consolidation, without putting patients at risk for life-threatening bleeding disorders, and other side effects related to DMAE. Thus, if a patient of yours is taking Ginkgo Biloba or Vinpocetine or DMAE, or any combination supplement containing any of these ingredients, then you should point out to them that it would be in their best interest, from a safety standpoint, to switch to Adeeva's Memory Support Complex

### **Monitor For Cholinergic Syndrome**

With that in mind, I want to point out one issue of importance. Among its ingredients Adeeva's Memory Complex contains Huperzine A, which is a natural substance that decreases the breakdown of the memory chemical acetylcholine. As such, the net result is that the brain will have access to higher amounts of acetylcholine (for memory purposes) upon supplementation with Huperzine A. And that is very good news as you age because acetylcholine levels tend to decline by our mid 50's, resulting in much of the memory impairment we see in later years.

The only concern is that too much of a build up of acetylcholine can result in cholinergic syndrome (excess amounts of acetylcholine in the nervous system). Recall that the pre and postganglionic neurons of the parasympathetic nervous system and the preganglionic (and some of the postganglionic) sympathetic neurons, use acetylcholine as a neurotransmitter, as do all neuromuscular junctions (motor nerves innervating skeletal muscles). As such, an excessive build up of acetylcholine (cholinergic syndrome) is characterized by mental status changes, muscle weakness and excessive secretory activity.

Although the human studies using Huperzine A have not reported any cases of cholinergic syndrome occurring as a side effect, it is important for practitioners whose patients are using Memory Support Complex to be aware of changes in their patients' status involving any of the following signs and symptoms:

**Excessive Parasympathetic Stimulation (Macarininc)** - bradycardia, pinpoint pupils, increased sweating, blurred vision, excessive lacrimation, excessive bronchial secretions, wheezing, dyspnoea, coughing, vomiting, abdominal cramping, diarrhoea, and urinary and faecal incontinence.

**Excessive Sympathetic or Neuromuscular Stimulation (Nicotininc)** - tachycardia, hypertension, dilated pupils, muscle fasciculation and muscle weakness.

**Central effects** - may include agitation, psychosis, confusion, coma and seizures.

In everyday life cholinergic syndrome most commonly occurs upon exposure to certain toxins that powerfully inhibit acetylcholinesterase. However, toxins of this nature are also used in certain types of chemical warfare. (Carbamate pesticides, Neostigmine, Organophosphorus pesticides, Organophosphorus warfare agents, Sarin, Soman, Tabun, Physostigmine, Pyridostigmine). Cholinergic syndrome can also occur from exposure to toxins that directly stimulate acetylcholine receptors (Arecholine, Betanechol, Carbachol, Metacholine, Pilocarpine and Mushrooms, including, Boletus sp., Clitocybe sp., Inocybe sp.)

Some drugs used in the treatment of Alzheimer's disease can also result in cholinergic syndrome, due to their inhibitory effects on acetylcholinesterase. Doctors typically monitor for side effects of this nature

### **Low Dose For Safety**

In Adeeva Memory Support Complex, one capsule (the typical daily dosage for prevention) contains 25 mcg of Huperzine A. In therapeutic trials that have used doses of Huperzine A at 200 mcg, two times per day, to treat dementia and Alzheimer's disease patients, there have been no reports of cholinergic syndrome occurring. Thus, a daily dosage of 25 mcg is regarded as being quite safe, according to the existing evidence. Nevertheless, I have written this article to ensure that all practitioners are aware of the signs and symptoms of cholinergic syndrome, even though it is very unlikely to occur in patients using this supplement.

As impaired memory function and other signs of cognitive decline are common aspects of aging, individuals, by age 55 most individuals should consider supplementation with Adeeva's Memory Support Complex to help maintain brain levels of acetylcholine and as well as optimal nerve structure, function and nerve transmission capabilities.

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