



PIC QUESTION OF THE WEEK: 2/02/09

Q: Can *statin* medications affect cognitive function and possibly be a factor in the development of Alzheimer's disease?

A: *Statin* medications such as simvastatin (Zocor), atorvastatin (Lipitor), etc. are the most commonly prescribed drugs in this country for reducing elevated cholesterol levels. Because of their cardioprotective effects, these medications are also utilized to reduce the risk of myocardial infarction and stroke. Recently, some have questioned whether these drugs may possibly have a negative effect on cognitive dysfunction and potentially play a role in the development of Alzheimer's disease. Cholesterol is an important component of the neuronal myelin sheath and plays a critical role in nerve conduction within the brain. It has been hypothesized that decreases in cholesterol, as seen in those patients taking statin medications, may result in cognitive dysfunction. A number of case reports describe patients who developed short-term memory problems while receiving statin medications; however, a probable causal relationship was difficult to establish. The majority of these patients were administered simvastatin or atorvastatin. Some have suggested that lipophilic statins may be more associated with changes in cognitive function; however, a recent study concluded that all statins reduced the frequency of Alzheimer's disease, regardless of their lipophilic nature. Another relatively recent trial evaluated the possible association of statin therapy with the development of Alzheimer's disease and changes in cognitive function in nearly 900 patients. In addition, over 250 patients had autopsies of the brain at the time of their death. The authors concluded that long-term use of statins did not result in any change in cognitive function. In addition, neuropathologic findings at autopsy revealed no evidence of Alzheimer pathology. In this study, patients taking statins were less likely to have amyloid deposits in brain tissue and their use was not associated with tangles or infarction. Again, there did not seem to be a relationship between the lipophilicity of the individual drugs and their potential to produce negative effects. Although cognitive function may be reduced in some patients receiving statin therapy, a causal relationship has yet to be established.

References:

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