Shilajit and the Aging Brain

One devastating consequence of mitochondrial aging and loss of ATP production is deterioration of the central nervous system function.

In fact, poor mitochondrial energy production is considered both a cause and a consequence of memory loss and neurodegenerative diseases like Alzheimer’s and Parkinson’s. A growing body of evidence shows that shilajit has the potential to reverse many of these neurological changes.

Numerous studies have shown that shilajit fights Alzheimer’s on multiple fronts. First, the neurotransmitter acetylcholine is known to be deficient in patients with Alzheimer’s disease. Acetylcholine is a brain chemical that is important for memory and attention. It is believed that maintaining healthy acetylcholine could help prevent the worsening of Alzheimer’s symptoms. That’s where shilajit comes in: It helps produce a beneficial increase in acetylcholine in the brain by reducing levels of an enzyme that breaks it down.

Another hallmark of Alzheimer’s disease is the buildup of abnormal proteins called tau (within brain cells) and beta-amyloid (outside of cells), which appear to induce neuronal dysfunction and early cell death. Inhibiting these abnormal protein deposits is a promising target of Alzheimer’s drug therapy, though no drug has yet emerged that effectively reduces such aggregates.

But shilajit has succeeded where drugs have failed: Lab studies demonstrate that one of the principal substances in shilajit (fulvic acid) inhibits the buildup of dangerous tau proteins. It even goes one step beyond that. In an exciting discovery, shilajit was found to significantly untangle filaments of the offending protein, an apparent reversal of the progression of Alzheimer’s!

Shilajit exerts beneficial effects on Parkinson’s disease by increasing levels of essential neurotransmitters (brain signaling molecules) such as dopamine, which is reduced in Parkinson’s. In addition, an early study on rats in mazes showed that shilajit significantly improved performance and reduced anxiety levels.

### ENERGY AVAILABILITY IN FORCED-SWIM MICE

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>ATP in Muscle (µmol/g)</th>
<th>ATP in Brain (µmol/g)</th>
<th>ATP in Blood (mmol/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>1.39</td>
<td>0.27</td>
<td>0.69</td>
</tr>
<tr>
<td>Swim only</td>
<td>0.25</td>
<td>0.18</td>
<td>0.45</td>
</tr>
<tr>
<td>Swim + shilajit</td>
<td>0.49</td>
<td>0.21</td>
<td>0.59</td>
</tr>
<tr>
<td>Swim + CoQ10</td>
<td>0.48</td>
<td>0.20</td>
<td>0.57</td>
</tr>
<tr>
<td>Swim + shilajit + CoQ10</td>
<td>0.61</td>
<td>0.28</td>
<td>0.62</td>
</tr>
</tbody>
</table>
Energy availability from ATP in muscle, brain, and blood of mice. ATP levels plunge from control to swim-only groups, reflecting exhaustion of unsupplemented mitochondria unable to produce more ATP, but animals supplemented with either CoQ10 or shilajit have moderate increases in ATP, and dually supplemented animals have highest ATP levels of all, reflecting synergistic effect of both nutrients.

Shilajit and Heart Function

Ayurvedic practitioners have traditionally used shilajit as a treatment for hypertension and improving heart function. Recent studies have validated shilajit’s heart-healthy benefits, specifically for those with high blood pressure or other cardiac stressing conditions.

The first study evaluated a tiny marine organism called Daphnia. Although they are invertebrates, Daphnia have hearts that respond similarly to those of humans when exposed to a variety of cardiac medications, making them an ideal test organism. When Daphnia were treated with low doses of shilajit, their heart rates fell significantly, an effect frequently sought in patients with high blood pressure or other cardiac stressing conditions, suggesting a use for shilajit in humans with these conditions.

Similar reductions in heart rate and blood pressure were seen in laboratory rats. One particular study showed that shilajit has important effects that mimic the parasympathetic nervous system. This is the system that goes into action to induce the opposite of the “fight-or-flight” reflex, producing a state of calm, with low heart rate and blood pressure. Healthy rats treated with shilajit showed significant reductions in blood pressure, heart rate, and respiratory rate, suggesting a beneficial energy-conserving status.

Many people are excited to learn that shilajit helps protect against the kind of heart muscle injury that occurs during a heart attack. This was demonstrated in a study of rats that were divided into two groups: one served as a control group and the other received shilajit supplementation for seven days prior to treatment with a drug (isoproterenol) that induces heart muscle injury.

Following treatment with isoproterenol, unsupplemented animals developed areas of heart muscle damage and a loss of pressure generated by heart contractions. By contrast, shilajit-supplemented rats maintained pumping pressure, had smaller and less severe areas of muscle damage, and displayed lower levels of injury-marking heart muscle enzymes.

Summary

Mitochondrial dysfunction is linked to a broad range of degenerative illness, from diabetes and neurological disorders to heart and kidney failure.

Shilajit helps combat mitochondrial dysfunction-induced aging. Working synergistically with CoQ10, shilajit boosts energy, protects mitochondria, and reduces aging at the cellular level.

Studies show that shilajit acts like a fuel supplement in a race car, boosting efficiency and reducing wear and tear on essential structures. These effects are showing great promise in preventing the aging of energy-intensive tissues like the heart and brain.

Most readers of this magazine have enjoyed the synergistic effects of shilajit and ubiquinolCoQ10 for the past eight years in the supplements they use daily.