Halotherapy by Daniel T. Layish, MD, FACP, FCCP, FAASM

The word Halotherapy comes from the Greek word “halos” meaning salt. While the potential benefits and therapeutic nature of salt has been known for centuries, it was not until the early 1800’s that the underground salt mines throughout Eastern Europe were noted to benefit various respiratory conditions. As the workers were mining the salt in these climate-enriched chambers, dry salt particles would be inhaled into the respiratory system. The dry salt was discovered to be super absorbent, anti-bacterial and anti-inflammatory. Soon people with various conditions were spending time in these salt mines. In the mid-1900’s the Russians began working on a technology to replicate the dry salt particles in the air and developed the first halogenerator, a device that grinds pure sodium chloride into precise particles (several microns in diameter) and disperses the dry salt into a climate controlled room or chamber. This was the start of modern Halotherapy, which has been utilized for several decades throughout Eastern Europe and has begun to expand into many other countries including the United States and Canada. The small particle size is felt to be important to allow penetration deep into the lungs, since larger particles will simply be deposited in the nose, throat or large airways. The air in a halotherapy chamber is also filtered to remove contaminants and the temperature and humidity are well controlled.

As a pulmonologist, I initially became familiar with halotherapy through my care of individuals with Cystic Fibrosis. Cystic Fibrosis is a genetic disorder characterized by dehydration of the respiratory epithelial surface, resulting in impaired mucociliary clearance. In this disorder, thick tenacious secretions obstruct the lower airway and sinuses and provide an environment for chronic infection. Nebulized hypertonic saline has been shown (in well done randomized clinical trials) to improve pulmonary function and respiratory symptoms as well as reduce pulmonary exacerbation rate in individuals with cystic fibrosis. This may be referred to as “wet” salt therapy as opposed to halotherapy which is “dry” salt therapy. Nebulized hypertonic saline can sometimes cause bronchospasm, and not all patients can tolerate this therapy even when premedicated with a bronchodilator. In cystic fibrosis, halotherapy has some theoretical advantages over nebulized hypertonic saline. The prolonged duration of therapy (typically a 45-minute session) appears to be associated with a much lower incidence of bronchospasm than is seen in the setting of nebulized hypertonic saline. In addition, in the halotherapy mode of administration the salt particles are delivered to both the sinuses and the lower respiratory tract. After seeing anecdotal benefit in our patients with cystic fibrosis, we performed a clinical study, which confirmed that this therapy was well tolerated and the patients derived symptomatic benefit in terms of their sinus complaints. Other studies are planned to study this therapy further in individuals with cystic fibrosis.

The fundamental defect in cystic fibrosis is related to chloride transport and therefore there is a strong rationale for halotherapy in this particular disease. Anecdotally, I have seen patients with other respiratory diseases derive significant benefit from Halo-

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