Balneotherapy and Asthma

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ABSTRACT

Animals, especially dogs and pets, also develop asthma and manifest themselves with symptoms similar to those of humans. The incidence of asthma in animals is becoming a more serious problem on a daily basis as a result of the increased exposure to environmental pollutants. It is believed that the use of hot water in pour form by nebulizer will give positive results in animals as well as, in humans. Balneologically, using hot spring water inhalation route in the animals may promote the healing of asthma in animals as humans.

Key words: Balneotherapy, asthma, animals, humans.

INTRODUCTION

Asthma is defined as a chronic inflammatory disease of the airways; however, the underlying physiological and immunological processes are not fully understood. Animal models have been used to elucidate asthma pathophysiology, and to identify and evaluate novel therapeutic targets. Allergen challenge models reproduce many features of clinical asthma and have been widely used by investigators; however, majority is involved in acute allergen challenge procedures. It is recognized that asthma is a chronic inflammatory disease resulting from continued or intermittent allergen exposure, usually through inhalation (Nials and Uddin, 2008).

As in humans, animals especially dogs and pets, are susceptible to asthma and an animal’s asthma is aggravated by allergens or irritants present in the animal’s environment. In fact, the incidence of asthma in pets is increasing due to increased exposure to environmental pollutants (Passali et al., 2013; Bonay and Aubery, 2007; Salvi, 2001; Holgate et al., 2003).

It is often difficult to determine which allergens cause asthma in individual animals, but common triggers include dust, grass and tree pollen, car exhaust and other air pollutants, mildew and mold, cigarette or fireplace fumes, various home spraying and chemical solutions (hair spraying), deodorants, flea sprayers, room deodorizers and cleaners, odors), and in closed keds, cat litter. Even food allergies, exercise and heat / cold sensitivity may be the likely factors (Leas et al., 2018; D’Amato et al., 2005; Stave, 2018; Ishi et al., 2018).

The pet of any age can have asthma. The primary symptom is coughing, cat owners, and even veterinarians, sometimes mistakenly identify coughs as attempts to cough their hair follicles. In mildly affected animals, coughing and wheezing may only rarely occur. Sometimes asthmatic pets are asymptomatic among acute episodes of airway constriction; with most severely affected animals experiencing regular airway constriction seizures, as well as, daily coughing and wheezing respiration. These seizures can lead to open mouth breathing and breathing, which can threaten life in the most extreme form (Mendy et al., 2018; Muller et al., 2018; Ahluwalia and Matsui, 2018).

Symptoms of asthma are similar to the symptoms of other diseases such as heart disease, pneumonia and congestive heart failure. Chest x-ray, whole blood count, heart-to-heart test and sampling of cells from the lower respiratory tract can be used to make a correct diagnosis. Unfortunately, there has not been enough progress in the treatment of asthma in the last 50 years (Holmes et al., 2011; Helman et al., 2017; Virtanen, 2018).

In studies with hot spring water, it has been reported that the inhalation of vapor in the form of inhalation has many respiratory system diseases as well as, providing important contributions to clinical improvement of asthma disease (Marktl, 2006; Passali et al., 2017; Yamaoka et al., 2001).
has been reported that the presence of radon in hot spring waters enhances the therapeutic effects of these waters on asthma and respiratory system diseases (Passali et al., 2017).

Balneotherapy is used to treat inflammatory diseases of the upper and lower airways. Several kinds of thermal waters with different physical and chemical characteristics exist. Some thermal SPA centers around the world provide radon-enriched water. Radon-222 is a radioactive gaseous element that mainly emits alpha rays. The clinical effects of inhalation of water containing radon-222 was compared with the effects of water inhalations without radon-222; radon reduced oxidative activity of inflammation by enhancing catalase and superoxide dismutase activity (Passali et al., 2013). SPA waters contain radon at nominal level thinking such that similar positive effects will be provided (Elitok, 2010).

Although we searched literatures about the healing effects of hot spring water, we could not find literatures directly dealing with balneotherapy and animal asthma. Therefore, there is need for further studies as regards this subject.

REFERENCES


Nials AT, Uddin S (2008). Mouse models of allergic asthma: acute and chronic

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