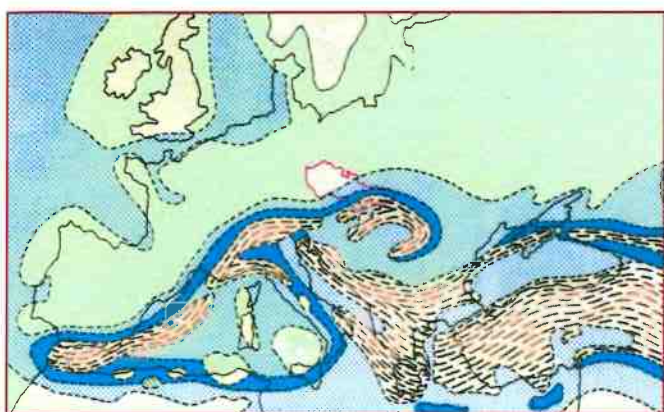


Curative Effects of Hydrogen Sulphide

in Natural Health Spa Smrdáky

The spa village of Smrdáky is situated in the Záhorie region less than 7 km from the county town of Senica. Here, an ancient sea left a precious heritage in the form of mineral water springs with a high hydrogen sulphide content and curative sulphuric mud millions of years ago. The spa belongs among the most effective Slovak spas for curing non-infectious skin diseases and diseases of the locomotive system

Smrdáky is a spa with a high hydrogen sulphide level and complex, sophisticated and effective therapeutics. Here, there are springs with mineral water that contains up to 680 mg/l of hydrogen sulphide. In comparison, all the other spas in Slovakia have mineral water with a maximum hydrogen sulphide content of 24 mg/l.



25 million years ago, the area of the spa Smrdáky was flooded by the sea which contained biological sediments which were deposited. These were later transformed into sources of curative mineral water with high hydrogen sulphide content. Currently, two springs that produce water with hydrogen sulphide are in use in Smrdáky. The characteristics of the mineral water are as follows: natural, curative, mineralised, sulphuric water with an increased content of boracic acid and a content of hydrogen sulphide of up to 680 mg/l of water

It follows from the above, that the main active ingredient of the Smrdáky mineral water is sulphur, specifically hydrogen sulphide. Hydrogen sulphide is very easily absorbed during bathing. After several minutes of bathing, one can observe the increased blood flow in the skin, even with the naked eye, with a clear border along the line of submersion. In this way, hydrogen sulphide influences blood flow and the nourishment of all the components of the skin. At the same time, bathing in water containing hydrogen sulphide considerably reduces feelings of itchiness and reduces sensitivity to pain of all kinds (by up to 50%). Sulphur also gets into the hair even in the parts of the body which are not submerged and can be still detected several weeks later. Hair, nails, the epidermis and joints are the richest in sulphur. Deep penetration of sulphur from the hydrogen sulphide through skin into the whole body even after just several minutes in a bath is shown by the presence of sulphur isotope tracers in the blood and urine. In the past, these observations suggested the use as a treatment for skin diseases as well as for diseases of locomotive system. At the same time, the use of hydrogen sulphide baths is also said to have a preventive effect and reduces the likelihood of the recurrence of disease.



MUD APPLICATION



MINERAL BATH



PHOTOTHERAPY



UVB 311 COMB

The analgesic effects of hydrogen sulphide on deep structures (joints, locomotive system) are highly indicated in a state of rest, motion or load alike and subsequently, the effects last after the bath giving an overall improvement in condition. This improvement is caused by influence on reflex changes, peripheral pain receptors and also the central perception of pain. Hydrogen sulphide plays the most important role in the overall effect of balneotherapy at the Spa Smrdáky, however, the expected complex curative effect is dependent on the presence of other elements as well. NaCl (salt) removes scurf and it penetrates into the skin and binds in water. In this way it provides the sensation of rapid skin moisturising even without the use of creams on dry ichthyotic skin. Magnesium increases the effect of ultraviolet (UV) radiation on the skin and at the same time prevents solar dermatitis.

Sulphuric mud is a peloid created by water containing hydrogen sulphide flowing through the loess soil of this area. After extraction, the mud is stored in a special pool where it matures for one year under a layer of mineral hydrogen sulphide water. It has a special consistency that provides thermal durability, it cools four times more slowly than water and it warms even deep body structures. These highly effective sulphuric peloids are used in the form of poultices for joints and the spine. The effect of concurrent treatment with natural heliotherapy or UV phototherapy (UVB 311, UVA), influencing pathological skin processes with local dermatological treatment, diet, along with hydrotherapy, electrotherapy, massages and mud has a positive influence on the condition of skin diseases and the locomotive system.



All of these are good preconditions for the successful sophisticated balneotherapeutic treatment of various forms of dermatitis (e.g. psoriasis, eczema) as well as diseases of locomotive system (e.g. psoriatic arthritis) with an average remission period of 6 to 9 months after repeated treatment according to the testimonies from our patients, as well as an overall retuning of the immune system and a long-term increase in the robustness of the organism and the prevention of recurrences.

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