Wich salt mine do you recommend for speleotherapy? Interdisciplinary project proposal.

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Introduction

I am a 50-year old patient with chronic respiratory disease. I live in a city and lead a sedentary lifestyle, working in a high-responsibility profession.

Aim

I want to benefit from speleotherapy in a salt mine.

Material and method

I have talked with the pneumologist, but he has told me that there aren't studies and he was unable to recommend me a salt-mine. I am kindly asking the experts at the Congress to answer – or, if they are unable to presently identify the "ideal" salt mine, I propose a large-scale collaboration to achieve this.

Criteria:

- Easy access to the destination by car or public transport.
- Accommodation in a natural picturesque location.
- To receive fresh, healthy meals.
- To enjoy quiet time, of relaxation.
- Possibility to meet with the other treatment course participants for hiking, visiting, music-listening / recitals, dancing etc.
- To access the salt mine without having to breathe-in large amounts of exhaust gases.
- To be able to enjoy the pure and saltsaturated air of the salt mine
- Constant removing of the isolating superficial layer grime on top of the salt surfaces.

- The walls should be the salt mine's natural walls, not concrete walls covered with planks or other such structures.
- The existence of natural methods to purify and refresh the air, proportional with the number of visitors.
- No active mining in therapeuticoriented salt mines.
- Kinesiotherapy, *Tai Chi*, pleasant games/sports, quiet places and/or auditorium etc.
- Being free to spend my time at my own leisure, while at the same time knowing that it is a safe, controlled and well-studied environment, and that the therapeutic trials had positive results.
- To be able to exit without stress or overcrowding/bottlenecking. Knowing that there are several ways to exit the salt mines.
- To be a pleasant experience, with therapeutic consequences not a sort of "bitter pill".
 - To make me want to come back again.

Conclusions

What would be your recommendation?
When and how will the existing ones be put to

This is an invitation to collaborate. Thank you!

Key words: natural and therapeutic factors, salt mine

Introduction. Scenario.

Occasionally, I have heard that saltmine therapy would be useful (1) (2) and I saw some images on the internet. I have discovered that salt mine therapy is a complex therapeutic influence on persons which deliberately descend in salt mines to benefit from the special underground environment, especially of the saline aerosols on the respiratory apparatus.

I am a 50-year old patient with chronic respiratory disease. I live in a city and lead a

sedentary lifestyle, working in a highresponsibility profession. I have decided to take better care of myself, to make a change towards the better, to counter the unpleasant symptoms and improve my quality of life.

Aim

I want to benefit from speleotherapy in a salt mine. I hope to achieve an improvement regarding the coughing, an easier elimination of the sputum, to get used to effort again and improve my dyspnoea. If I will achieve these objectives, I will be "a new person". I am not a smoker, but being affected by the pollution of the city (air and sound), passive smoking in public spaces, meetings etc. is unavoidable. In the salt mine I will get away from all of this.

Material and method

I have talked with the pneumologist, but he has told me that there aren't studies and he was unable to recommend me a salt-mine. I am kindly asking the experts at the Congress and of this Balneo Research Revue to answer - or, if they are unable to presently identify the "ideal" salt mine, I propose a large-scale collaboration to achieve this.

There is a great number of people in Romania who want to know what they can expect from a salt-mine treatment course, and need to be taught how they can directly benefit from the underground climate.

I hope to find a town or a village with a salt mine for touristic and medical purposes, which will fulfil the following **Criteria**:

- Easy access to the destination by car or public transport.
- Accommodation in a natural picturesque – location.
- To receive fresh, healthy meals.
- To enjoy quiet time, of relaxation (Fig. 1).

I consider too that relaxation represent a way to access miraculous (self) healing resorts and it is entering an intermediate state of consciousness induced by different methods of relaxation.

Mild, superficial meditation.



Fig. 1. Rest. Our therapeutic group in Cacica salt mine, Suceava County, Romania.

- Possibility to meet with the other treatment course participants for hiking, visiting, music-listening / recitals, dancing etc.
- To access the salt mine without having to breathe-in large amounts of exhaust gases.
- To be able to enjoy the pure and saltsaturated air of the salt mine
- Constant removing of the isolating superficial layer grime on top of the salt surfaces.
- The walls should be the salt mine's natural walls, not concrete walls covered with planks or other such structures (Fig. 2).



Fig. 2. The first-author with a colleague in a salt mine chamber without salt, in another country, October 2014.

- The existence of natural methods to purify and refresh the air, proportional with the number of visitors.
- No active mining in therapeutic-oriented salt mines.
- Kinesiotherapy (Fig. 3), *Tai Chi*, pleasant games/sports, quiet places and/or auditorium etc.





Fig. 3. Salino-kinesiotherapy. Our therapeutic group in Cacica salt mine, Suceava County, Romania.

Speleo-kinesiotherapy - the therapeutic qualities of the microclimate from salt mines associated with physical activity, spontaneously or in an organized manner (3).

About exercise as a treatment for inflammation, I know that (4):

- **Regular** physical activity is reported to decrease markers of inflammation.
- Long-term chronic training may help reduce chronic low-grade inflammation.
- **Low-intensity** training can reduce resting pro-inflammatory markers (CRP, IL-6).
- There is a strong relationship between exhaustive exercise and chronic low-grade inflammation.

As such, individuals pursuing exercise as a means to treat the other factors behind

chronic inflammation may wish to balance their exercise protocol with bouts of lowintensity training, while striving to avoid chronic over-exertion.

There are many studies evidence-based medicine for kinesiotherapy, even in my region (5) (6).

- Being free to spend my time at my own leisure, while at the same time knowing that it is a safe, controlled and well-studied environment (7), and that the therapeutic trials had positive results (8).

I intend to swim or to benefit from hydro-kinesiotherapy in a salt water pool. I selected from the internet the following images and I shall decide where I shall go (Fig. 4, 5, 6).



Fig. 4. Cacica's Salt water pool (9



Fig. 5. Tg. Ocna's Salt water pool (10)



Fig. 6. Praid's Sal water pool (11)

To be able to exit without stress (Fig. 7) or overcrowding / bottlenecking. Knowing that there are several ways to exit the salt mines.



Fig. 7. Step by step. Our group resurfaces from Cacica salt mine.

I want to go to the church because the sacrotherapy (12) is a powerful therapeutic tool. For example, the patients of Cacica

participated in several inter-confessional religious manifestations (Fig. 8). It was like a first step to ecumenism.



Fig. 8. I realised myself a photo in Cacica: St. Varvara Chapel in salt mine (40m). St. Varvara protects the miners.

- I hope that my future speleotherapy in a salt mine will be a pleasant experience (13), with therapeutic consequences – not a sort of "bitter pill". And to make me want to come back again (14).

Conclusions

- -What would be your recommendation for my salt mine speleotherapy?
- -When and how will the existing salt mines be put to good use?
- -This article is an invitation to collaborate. Thank you!

References

- 1. Simionca Iuri et al. File istorice, rezultate si perspective in cercetarea stiintifica si utilizarea speleoterapiei in Romania. Turda: Conferinta, 6-8.10.2011.
- 2. Iețcu I et al. Cristale de Bucovina. Ed. Musatinii, Suceava, 2010.
- 3. Bîlha Ştefan. O abordare holistică: salinoterapia şi kinetoterapia. USV, 2012.
- 4. Pedersen BK, Hoffman-Goetz L. Exercise and the immune system: regulation, integration, and adaptation. Physiol Rev. 2000 Jul and Review., 80(3):1055-81.
- 5. Bîlha Andrei. Paradigma Medicina bazată pe dovezi și kinetoterapia. USV, 2012.
- 6. Bilha Claudia, Havris Daniela, Bilha A. Evidenced-based kinesiotherapy in Suceava, Romania. *SSEUSU "SCIENCE, EXCELLENCE, SPORT" (SSN 2248 2911, ISSN-L = 2248 2911).* Vol IV ISSU 4/2012.

- 7. Investigations on the presence and distribution of radon in the Cacica salt mine, Romania. . Calin, MR și Calin, MA. s.l. : J Radioanal Nucl Chem, 2011, pg. 203-206.
- 8. The speleotherapeutic effect of salt mines underground environment with different curative properties for patients of infection inflammatory and allergic respiratory diseases. . Iu.Simionca, M.Hoteteu, Ana Munteanu. C.Munteanu, Iuliana Rizea. O.Mera, L.Enache, M.R. Calin, N.Grudnicki, Diana Munteanu, Neli Claudia Bilha, I. Ietcu, D.Ciotaru, N. Tiganila, Elena Dumitrescu, H. Lazarescu, N. Tiganila, I. Ietcu. s.l.: Acta Balneologica, 2014, Vols. LVI nr3:145-6.
- 9. [Online] http://www.ecomunitate.ro/blog/trandul_cu_apa_sarata_biblioteca_centru_de_iradiere_a_informaiei.
- 10. [Online] http://fasport.gsp.ro/inot/Targu-Ocna/Complex-Creanga.html.
- 11. [Online] http://sharethis.ro/2014/07/31/vacanta-cu-tratament-salina-de-la-praid-si-strandul-cu-apa-sarata.
- 12. Dulcan D.C. În căutarea sensului pierdut. Cluj-Napoca: Editura EIKON, ediția a II-a, 2008.
- 13. Klein S. Formula fericirii minunatele descoperiri ale neuropsihologiei de azi. București: Editura Humanitas, 2005.
- 14. Bilha Claudia, Simionca Iu. *General remodeling in the rehabilitation process through salt mine speleotherapy*. Barcelona ERS Congress: European Respiratory Journal 42 (Suppl 57), P2226, 07-11.09.2013.