DRY SODIUM CHLORIDE AEROSOL IN REHABILITATION OF PATIENTS WITH COPD

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Introduction
Management of COPD involves optimising medical therapy, commencing smoking cessation and participating in pulmonary rehabilitation (RT). Recently, there has been interest in ways of involving physical methods to RT. Dry sodium chloride aerosol (DSCA) is the main acting factor of the speleotherapy (salt cave therapy) and halotherapy (therapy in a controlled air medium which saturated with dry salt aerosol). DSCA is characterized with physical properties, differing from those of the saline aerosols.

Our previous studies demonstrated that DSCA possesses anti-inflammatory activity in the respiratory tract, mucoregulating action. It enhances drainage of the bronchi, activates alveolar macrophages, improves biogenesis and local humoral immunity.

Aim of the study
The main objective was to estimate the efficacy of inhaled dry sodium chloride aerosol (DSCA) in rehabilitation therapy (RT) of patients with COPD.

Methods
It was double-blind placebo study. 72 patients (pts) with moderate and mild stage of COPD were recruited. They were randomized in 2 groups - intervention group (IG) (21 m, 18 f, 60.3±10.8 yrs) and control group (CG) (22 m, 11 f, 58.5±8.9 yrs). All patients received RT: daily procedures of chest massage, light radiation, physical exercises. Pts of IG were treated with the DSCA (45 min twice a day for 14 days). (Fig.1).

Investigation Design

- Breath exercises
- Chest massage
- Chest irradiation – Sollux lamp
- Dry salt inhalation (2 times a day) for 14 days in room equipped with halogenerator

Results
Improvements of clinical symptom scores were observed in the both groups after the course of RT (p<0.05), but in 3 months positive effect was noticed only in IG (before-13.8±5.4, after RT- 9.1±4.9, in 3 months- 9.6±4.3, p<0.05). Measures of LCQ were changed significantly after RT only in pts of IG, received DSCA (35.2±5.2 and 52.4±6.3, p<0.05). Positive changes of physical functioning measures (SF-18) were observed in IG and CG groups after RT, but they have been kept till 3 month only in IG.

Conclusions
Application of inhalations of DSCA on the background of the RT in pts with COPD renders to positive effect.

Bibliography

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