

Bronchitis and COPD

Exhaled Breath Temperature as an Indicator of Exacerbation in Patients with Chronic Obstructive Pulmonary Disease

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COPD is an inflammatory disease of the airways. Vasodilatation is an important feature of inflammation, angiogenesis and vascular remodeling in this chronic inflammatory disease. It was found that patients with exacerbated asthma present higher increases of exhaled breath temperature. We suggested that patients could present different EBT according to their age. In the present study we investigate the relationship between age of patients and exhaled breath temperature.

Material and methods. 124 patients with COPD and asthma (72 male and 52 women) were included into the study. Mean age of investigated group was 58,4. range from 42 to 81 yr. We also examined 30 control healthy subjects (age ... ± 2 yr, 8male) recruited from outpatient clinic and from volunteers. Patients with acute respiratory infection or disease exacerbation in last month were excluded. All tests were performed at the same room , same time and at ambient temperature between 20 and 23C° and humidity 55% and 70%.

Exhaled breath temperature was measured with a device (Delmedica,Singapore) as described by Popov et al. [1.] Mean value was calculated from repeated on 3 consecutive measurements carried out 1 day apart.

Results. EBT values were almost 2,0 C ° C higher in control group (EBT = 33.91 ° C), compared to patients with chronic obstructive respiratory disease (EBT= 31,69 C) and asthma (EBT= 30,89 C . We found inverse related correlation between age of patients and measured temperature ($r=0,54$; $p<0,05$)

Conclusions.

- The results show an inverse correlation between age of patients with COPD and EBT.(cause of disease progress, aging , vascular remodeling- lack of small vessels)
- Patients with COPD presented lower EBT values than controls.