

1,4 times – at the age of 50-59. After 60 years old there became more women: in the age category up to 70 their quantity exceeded the number of men 1,2 times, and after 70 – 2,3 times.

The article is admitted to the International Scientific Conference “Fundamental and applied research in medicine”, China (Beijing), 26 November - 4 December, 2007, came to the editorial office on 09.11.07.

SOME ASPECTS OF HEALTHY AND OBSTRUCTIVE PULMONARY DISEASE PATIENTS' RESPIRATORY SOUNDS COMPARATIVE ASSESSMENT

¹Guseinov A.A., ²Naumenko Zh.k., ³Kerimova A.M., ³Kichiyeva B.N., ³Kerimov K.Sh.

¹Dagestan State Medical Academy, Makhachkala, ²Scientific Research Institute of Pulmonology, Moscow, ³City Clinical Hospital, Makhachkala

Subject actuality

Modern computer technologies open up new possibilities in studying respiratory sounds acoustics, their treatment, archivation and standardization. Active research activity of scientists of a range of European countries is combined in the project CORSA (Computerized Respiratory Sound Analysis).

Russian scientists have developed an ingenious method of respiratory murmurs time and frequency characteristics analysis based on registration (scanning) of respiratory cycle – bronchophonography (BPG). The BPG is carried out with the help of computer diagnostic complex (CDC) “Pattern”. Such parameters as respiration period, instantaneous spectrum of respiration process within the limits from 200 to 12600 Hz, respiration acoustic mechanical equivalent (RAM) – the final integral characteristic representing the quantitative assessment of metabolic cost of the bronchopulmonary system for specific acoustical phenomenon activation and being expressed in millijoules (mJ), are investigated. The RAM measuring is performed in different frequency diapasons (RAM 0 – 200-1200 Hz - so called “basic” diapason, RAM 1 – 1200-12600 Hz - the whole spectrum, RAM 2 – 5000-12600 Hz – high frequency and RAM 3 – 1200-5000 Hz – low frequency ones), K – is the coefficient reflecting the same parameters in relative units in the corresponding frequency spectrums (K1 – the whole spectrum, K2 – high frequency and K3 – low frequency ones).

Purpose of work

Respiration patterns formation in healthy persons and obstructive pulmonary disease patients and their comparative assessment.

Materials and methods

We have examined 108 healthy persons (50 men and 58 women) and 166 (85 men and 81 women)

chronic obstructive pulmonary disease (COPD) patients: 91 bronchial allergy patients and 62 chronic obstructive bronchitis ones and 13 patients with these diseases' symptoms combination. All the patients had the functional disturbance of external respiration on the obstructive type in common. The BPG was carried out in the modes of quiet and forced respiration. More than 1000 of bronchophonograms have been analyzed as a whole. Nonparametric tests were used at the statistical treatment of the material. The statistical significance of difference between the factors in the examined groups was evaluated on the Mann-Whitney test.

Results

In the examined groups the authentic ($p < 0,05$) difference of RAM1, RAM3, K1, K3 factors in the mode of quiet respiration and RAM 0, RAM1, RAM2, RAM3, K1, K2, K3 ones at forced expiration was got.

Conclusions

Thus, we can hope that bronchophonography gives the possibility to get unbiased parameters of respiratory sounds which differ in healthy persons and obstructive disease patients, that can be used as a supplementary evaluative parameter in functional diagnostics of pulmonary diseases.

The article is admitted to the International Scientific Conference “Practicing doctor”, Italy (Rimini), 8-15th September, 2007, came to the editorial office on 09.11.07.

INFLUENCE OF OXIDATIVE STRESS ON REDOX-STATE AND PERIPHERAL BLOOD HETEROPHILIC LEUKOCYTES APOPTOTIC PROGRAM REALIZATION

Zhavoronok T.V., Stepovaya Ye.A., Ryazantseva N.V., Petina G.V., Starikov Yu.V., Ageyeva T.S.

Siberian State Medical University of Federal Agency for Healthcare and Social Development, Tomsk, Russia

Purpose: oxidative processes and neutrophils apoptosis evaluation in acute period of community-acquired pneumonia (CAP).

Materials and methods: 34 patients with the verified diagnosis of CAP were examined, the control made 32 healthy donors. Neutrophils were released on the bi-gradient; the number of apoptotic cells and the intracellular level of oxygen active forms (OAF) were evaluated in cell cultures by the method of ductal laser cytometry; the number of oxygenized carbonyl-proteins (CP) and cytokine production (IL-8, FNO α) were defined by the IFA method; the OH group production, myeloperoxidase (MP), glutathione-peroxidase (GP), glutathione-reductase (GR), thioredoxine-reductase (TRR) activity, deoxidized (DG)