

The Diagnostic Features of Mammary Gland Lesions in Ultrasound Elastography

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About 60000 new cases of breast cancer are revealed in the world every year. This figure may increase to 1,65 million of cases to 2015. At present breast cancer makes up more than 22% of all malignant neoplasms in women. The number of women with other pathologic processes of benign forms is 25-30 times is higher than that with cancer.

The aim of research is to define possibilities of elastography in differential diagnostics of nodes and cysts with heterogeneous thick contents (complex cysts) of the mammary gland.

Materials and methods 47 patients at the age of 19-65 were examined. Research was carried out on “Mindray DC-8” apparatus in β -regime and elastography of colour code regime.

Results. According to our research benign forms were revealed in 42 patients:17 cases had complex cysts, 14 patients had fibroadenoma, 3 – had intraduct papilomas, 5 patients had lipomas. Malignant tumors were detected in 5 patients and intraduct adenocarcinoma was detected in 3 cases. 2 cases had adenocystic carcinoma. Tumor pathology was excluded in 3 cases: cicatrix changes were defined during ultrasound investigation in 1 case, post-surgical hematoma was seen in 1 case, intramammary hyperplastic lymphonodus was observed in the other case.

All diagnoses were confirmed by cytologic or histologic investigation. Complex cysts were mapped as formations of mosaic structure with prevalence of green and red staining. Lipomas were defined as formations of green colour. Fibroadenomas in elastogram regime looked like formations with mixed code type, with the prevalence of elastic parts of green colour and single dense parts of blue colour; in the structure of 4 cases fluid parts of red colour were defined.

Malignant formations in 3 cases in colour regime were presented as dense tissue of blue colour. In 2 cases malignant tumors were presented as formations without clear contours of blue colour, it testifies to the nature of infiltrating growth. In the post traumatic change in the β -regime we observed echodense focus with acoustic shadow and with elastography the formation was mapped by green colour that testified to the low hardness. The hematoma was defined as the formation of a mixed type with a predominance of three coloured pieces and elastic green or grey colours. Not altered lymph node was coded in colour mode by elastic green or gray colours.

Conclusions. Elastography is a convenient and easy to use method of differentiation of benign and malignant disorders of the breast. It contributes to an earlier diagnostic occurrence of signs of malignancy. Besides the introduction of this method into clinical practice would reduce the number of unnecessary biopsies and duration of the subsequent medical monitoring.

Psychological dependence of features of indices of cerebral blood flow in patients with chronic obstructive pulmonary disease at different stages of formation of chronic pulmonary heart

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Abstracts. The study involved 107 patients with chronic obstructive pulmonary disease (COPD) at different stages of formation of chronic pulmonary heart disease (CPH). The relationship between

the decrease in total and regional cerebral blood flow and vascular remodeling in the brain and psychopathological disorders that occur in COPD. The results indicate that the progression of the disease on the background of respiratory failure in patients developing impaired cerebral hemodynamics, encephalopathy and changes in psychological status, more severe in patients with decompensated CPH. Timely administration therapy will prevent vascular complications in the brain and improve the quality of life in patients with altered mental characteristics.

Key words: chronic obstructive pulmonary disease, chronic pulmonary heart, cerebral hemodynamics, psychological characteristics, alexithymia.

In recent years the disease COPD treated with systemic manifestations, which affects many organ systems including the central nervous system (CNS). Against the background of respiratory failure occurs inadequate perfusion of the brain, which leads to changes in the mental state of patients, creating conditions for the development of clinically significant neurotic-like syndromes: asthenic, hypochondriacal, anxious and depressed [3]. The study of problems and somatic comorbidity of mental disorders becomes more urgent. The upward trend in the prevalence of mental disorders in terms of borderline stressful effects in COPD causes the importance of studying clinical and functional and psychological characteristics of these patients. The purpose of the study. Explore the relationship of cerebral hemodynamics with psychological features of COPD patients at different stages of the CPH [1, 2].

Materials and methods

The study involved 107 patients with COPD in acute, divided into the following groups: Group 1 - 33 patients without pulmonary hypertension (PH) at rest; Group 2 - 42 patients with compensated CPH, the third group - 32 patients with decompensated CPH. The control group consisted of 20 healthy subjects, comparable with the patients by age and sex. Mean age was $51,8 \pm 1,2$ years, The disease occurs more frequently in people of working age. Smoking history (SH) has averaged $21,2 \pm 1,4$ pack / years, 7-10 years, smoked 17 patients (18.5%), more than 10 years - 75 patients (81.5%). Comprehensive survey of hemodynamics were performed on ultrasound machine XD-XE 11 «PHILIPS» (USA) in the M-, B-, and color Doppler flow mapping. The volume of the right ventricle (RV) was determined by the method of RA Levine et al. (1984). Systolic pulmonary artery pressure (MPAP) calculated by the formula M.Isobe et al. (1986). Analyzed maximum (Vmax), minimum (Vmin), medium (TAMh) blood flow velocity, pulsation index (PI) and resistive index (RI) in the common carotid, internal (ICA) and external carotid, vertebral (PA) and the middle cerebral artery (MCA). All patients underwent a complete clinical examination. We studied the main clinical and biochemical parameters, respiratory function (ERF) for the unit «Micro Medical SU 6000" (UK), ECG, blood gas composition arterializovanny, conducted FBS and chest X-ray. To assess the psychological state of the multivariate method used systematic study of personality (SMIL, option L.N.Sobchik, 2004), the Toronto aleksitimicheskaya Scale (TAS, G.Taylor, 1985), Spielberger test Hanina (1983) to assess the personal and reactive anxiety.

The processing of the data according to the recommendations made by using the software package Statistica 6.0 for Windows. Non-parametric statistical methods were used: U - Mann-Whitney test (Mann-Whitney U-Test), and the correlation analysis using Spearman's rank correlation coefficient (R). Considered reliable indicators of differences at $p < 0.05$.

Results and discussion

We have obtained results showing the relationship of psychological and hemodynamic parameters in patients with COPD. In group 1 there was a direct measure of the relationship between the increase in the fluctuation index of the ICA and the PA with personal anxiety ($R = 0,42$, $p = 0.04$ and $R = 0,48$, $p = 0.04$, respectively). In Group 2, the determined negative correlation between the decrease in systolic blood flow velocity in the internal carotid arteries and the Toronto aleksitimicheskoy performance scale ($R = - 0,41$, $p = 0.04$), reflecting the negative impact of reduced cerebral perfusion on the psychological status of patients. The positive correlation in patients with third group between increasing KIM OCA with reactive anxiety ($R = 0,42$, $p = 0.04$)

and indicators of the Toronto alexitimicheskoy scale ($R = 0,43$, $p = 0,04$). Thickening KIM OCA suggests remodeling of the vascular system of the brain with further morphological reconstruction of the arteries. These changes can significantly limit the adaptive capacity of the vascular system of the brain, contributing to the progression of encephalopathy, against which developed cognitive disorders, psycho-emotional disorders, aggravating the difficulties in interpersonal relationships. This is confirmed by a high prevalence of alexithymia, personal and reactive anxiety in patients with the third group. In patients with decompensated CPH revealed high levels of alexithymia and deceleration of systolic blood flow velocity in the OCA ($R = - 0,77$, $p = 0,03$) and MCA ($R = - 0,85$, $p = 0,03$). There were significant positive correlations between disease duration and alexithymia ($R = 0,76$, $p = 0,001$), personal anxiety ($R = 0,43$, $p = 0,01$), the values on the scale of 1 SMIL technique ($R = 0,29$, $p = 0,05$), the scale 7 ($R = 0,28$, $p = 0,05$) and the scale 0 ($R = 0,26$, $p = 0,05$), indicating that the progression of COPD exacerbation hypochondria and anxiety, and on the restriction in this regard, social contacts.

Slowing the rate of cerebral blood flow in patients with COPD leads to dyscirculatory encephalopathy, which helps build-up of emotional stress and the development of anxiety and depressive disorders.

Conclusions

1. In patients with COPD develop cerebral blood flow in the early stages of the disease, with increasing pulsation and resistance indexes MAG. With progression of the disease is remodeling of the vascular system of the brain, reducing blood flow in the extra- and intracranial arteries.

2. Changes in cerebral hemodynamics correlated with psychopathological disorders that occur in COPD. Proportional disease duration increases anxiety levels ($R = 0,28$, $p = 0,05$), hypochondriasis ($R = 0,29$, $p = 0,05$), hysteria ($R = 0,26$, $p = 0,05$) alexithymia ($R = 0,76$, $p = 0,01$).

Literature

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Sports co-operate stronger

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Keywords: science forum, students, sport events.

This year will be held 10 anniversary of the Russian-Chinese international pharmaceutical forum. In 2005, the leaders of the two universities - the Amur of state medical academy – V.A. Dorovskikh and Heylutszyanskogo University of Traditional Chinese Medicine - Kuan Heyschys discussed some questions about the annual Sino-Russian Pharmaceutical Forum, not only with the science reports of the teaching staff, as were the two previous meetings, but also with the science reports post graduated students, concert programs and sport events .

In 2006 was the first foreign trip of the student-athletes of academy to Harbin. The structure of the sports delegation included five young men powerlifters (power triathlon). In Haylutszyansky