

Course of Tuberculosis in Combination with Arterial Hypertension

Khasanova M.F

Urgench branch of TMA

Khasanova Mohira Farkhadovna

Assistant, Department of Infectious Diseases and Phthysiology,
Urgench branch of Tashkent Medical Academy

-----***-----

Annotation: Tuberculosis in combination with other diseases is more severe. Tuberculosis is one of the oldest insidious diseases. Tuberculosis affects not only the lungs, but also all organs and systems. Currently, against the backdrop of an extremely high prevalence of arterial hypertension (AH) among the population, there is a steady tendency to an increase in the proportion of persons in the structure of hypertension in combination with tuberculosis. The prevalence of hypertension among people over the age of 30 varies from 3.4% to 40.7% [1,2]. The age of onset of hypertension, which was previously considered only for adults, has decreased significantly, and hypertension is registered in earlier age groups [3,4].

Key words: tuberculosis, course, arterial hypertension, clinic, diagnostics

Tuberculosis and hypertension are not only one of the most common, but also one of the least diagnosed diseases. A feature that makes it difficult to diagnose hypertension in the early stages in young people is the transient nature of the increase in blood pressure (BP). A practitioner is not always able to register blood pressure at the time of its increase in young people with transient and short-term rises in blood pressure. Meanwhile, it is known that rare episodes of increased blood pressure can lead to sudden cardiovascular complications [5,6,7]. Another important feature of the initial stages of hypertension is a long asymptomatic period, and therefore, young people do not know about the presence of the disease for a long time, rarely see a doctor and are not inclined to self-control blood pressure, even during periods of poor health. However, it is precisely during the period when there is a low readiness of patients for examination and implementation of medical recommendations that the diagnosis and treatment of essential hypertension is especially effective [8,9].

The nonspecificity of clinical manifestations of hypertension in young people and the lack of adequate diagnostic algorithms focused on this age make it difficult for a doctor to assess the symptoms of the disease. Under these conditions, the role of probabilistic methods for assessing clinical data increases many times over.

Purpose of the study: based on the study of the clinical and functional features of the course of arterial hypertension, the morphofunctional state of the cardiovascular system, to identify the most informative diagnostic criteria for the initial stage of arterial hypertension in young people.

Materials and methods of research

The studies were carried out on the basis of the family polyclinic No. 2 in Urgench and SVP "Goybu" of the Urgench district of the Khorezm region. SVP "Goybu", being a typical rural medical center, serves 16,548 people, of which 8263 are men (49.9%), 8285 are women (50.0%), adolescents - 740 (4.47%), children under 14 years old - 4420 (26.7%).

A case-control study was performed, which included 114 patients with a transient increase in blood pressure to degree I during dynamic observation and the absence of lesions of target organs detected during standard clinical examinations (group 1); 53 patients with hypertension with a stable increase in blood pressure of I-II degree and the presence of lesions of target organs (group 2) and 32 young people who did not have an increase in blood pressure during dynamic observation (control group). The groups were comparable in sex and age.

Inclusion criteria: men and women aged 18 to 27; patients with elevated blood pressure levels I-II degree; informed consent of the patient to participate in the study.

Exclusion criteria: symptomatic arterial hypertension; pregnancy; the use of hormonal contraceptives, non-steroidal anti-inflammatory drugs and other medications that increase blood pressure; exacerbation of chronic or the appearance of acute inflammatory diseases during the study; unwillingness of the patient to participate in the study.

A comprehensive clinical examination included the collection of complaints, anamnesis, assessment of risk factors for hypertension, determination of weight, height, and waist circumference. The diagnosis of hypertension was established in accordance with the recommendations of the All-Russian Scientific Society of Cardiology (VNOK) (2003, 2007) — at the level of systolic blood pressure (SBP) ≥ 140 mmHg. Art. and/or diastolic blood pressure (DBP) ≥ 90 mm Hg. Art. [7, 8]. The exclusion of symptomatic forms of AH was carried out in accordance with the recommendations of the Committee of Experts of the VNOK [7].

Daily blood pressure monitoring (ABPM) was performed on an outpatient basis in the “typical working day” mode using the Bplab monitor (LLC Petr Telegin, Nizhny Novgorod) according to the standard method. Echocardiography (EchoCG) was performed from the generally accepted positions in the position on the apparatus "Ultramark-9 HDI ATL" (USA). The study used one-dimensional and two-dimensional echocardiography methods. In all procedures of statistical analysis, the critical significance level p was taken equal to 0.05.

Results and discussion.

Diagnosis of hypertension in the 2nd group was not difficult. Mean daily SBP/DBP values were $148.61 \pm 6.79/96.32 \pm 5.33$ mm Hg, respectively. Art. In patients of this group, a stable increase in blood pressure was observed: in 42.3% of cases - constantly during the day, in 27.5% - with daily rises of 3-5 hours from one to several times a day, and in 30.2 % of cases - up to a day or more. Therefore, it was not difficult to confirm the increase in blood pressure with repeated measurements: on average, 9 out of 10 measurements recorded blood pressure $\geq 140/90$ mm Hg. Art. In 58.5% of patients, the level of daytime blood pressure corresponded to grade II hypertension. A feature of the group was a rather high frequency of structural changes in the myocardium of the left ventricle (LV): in 34.0% of cases, concentric LV hypertrophy was detected. Thus, a stable increase in blood pressure, the presence of lesions of target organs indicated that in patients of this group the initial stage of the development of the disease was missed.

Diagnosis of hypertension in patients of the 1st group, on the contrary, was an extremely difficult task. Thus, the average values of clinical SBP and DBP were in the range below 140/90 mm Hg. Art. ($137.64 \pm 6.68/88.78 \pm 4.70$ mmHg). However, in history, all patients had episodes of increased blood pressure to the level of II degree: in 38.5% of cases with a frequency of up to 1-2 times a week, in 31.6% - up to 1-2 times a month and in 29.9% - 1 time in 2-6 months. Moreover, in the majority of young people (56.1%), blood pressure increased for a short time, up to 1-2 hours, in 36.0% of cases - up to 2-6 hours, and only in 7.9% of cases - up to a day.

Since the results of clinical measurements of elevated blood pressure in this group of patients were characterized by low reproducibility, to confirm the increase in blood pressure $\geq 140/90$ mm Hg. Art. multiple daily measurements with a long (more than two weeks) interval were required. As a result, only in 4 out of 10 office

measurements in the representatives of group 1 an increase in blood pressure was recorded. At the same time, despite the fact that in 6 cases out of 10 their BP level was in the range from optimal to high normal, the average values of office SBP and DBP were significantly higher than in healthy peers in the control group ($116.55 \pm 5.94 / 73.92 \pm 5.62$ mm Hg, $p < 0.0001$). Thus, the timely diagnosis of hypertension in this group of patients became possible only due to multiple daily measurements of blood pressure and a rather long observation period. While the standard approach, limited to three measurements of blood pressure with an interval between measurements of at least a week, did not provide sufficient reproducibility of the results of clinical measurements of blood pressure in young patients with an unstable increase in blood pressure. Obviously, this is why patients in this category are most often left without observation, and the disease is detected in them already at the stage of target organ damage.

In group 1, episodes of increased blood pressure were recorded over the past 3 years, and in group 2 — 7 years ($p = 0.041$).

Assessment of subjective symptoms indicated the absence of any complaints in a significant proportion of patients in the 1st and 2nd groups (33.9% and 31.7%, respectively). If there were complaints, they were reduced to headache of various localization (44.4% and 47.2%; $p = 0.47$), dizziness (9.1% and 10.5%; $p = 0.06$), palpitations (6.3% and 5.7%; $p = 0.89$), discomfort in the region of the heart (4.3% and 2.5%; $p = 0.054$). In 2.0% and 2.4% of cases, only general complaints were noted - weakness, fatigue, heaviness throughout the body.

Only 29.9% and 34.6% of young patients in both groups assumed a relationship between subjective sensations and an increase in blood pressure, regardless of whether blood pressure was measured or not. In all other cases, the most common cause of complaints was emotional stress (share in the structure of causes - 58.6% and 56.1%), intense or moderate physical activity (4.6% and 5.1%), weather change (3.8% and 2.2%), mental stress (3.1% and 2.0%).

Thus, due to the nonspecificity of subjective symptoms, low awareness of the factors contributing to the development of hypertension, young patients with hypertension are not inclined to measure blood pressure during periods of deterioration in health, which makes it difficult to diagnose the disease early in young people.

Analysis of risk factors (RF) showed no statistically significant differences between representatives of the 1st, 2nd and control groups in terms of smoking prevalence, low physical activity, excessive salt intake, and frequent alcohol consumption. Heredity burdened by early cardiovascular diseases in groups 1 and 2 was equally common (79.5%). The obtained data testified to the low informativity of risk factors for the early diagnosis of hypertension in young people. At the same time, when analyzing the causes, it was found that there was a significant relationship between risk factors and the stabilization of the increase in blood pressure. Thus, the formation of labile AH was influenced by such factors as smoking ($p < 0.0001$), including passive (0.0001), AH in the mother, AH in the father, frequency of alcohol consumption more than 1 time per week, male gender ($p = 0.003$), increased blood pressure in the mother during pregnancy ($p = 0.008$).

The formation of stable AH was influenced by: complete exemption from physical education in an educational institution, overweight ($p < 0.0001$), smoking, maternal obesity, maternal stroke ($p = 0.042$), paternal stroke ($p = 0.023$), maternal pyelonephritis during pregnancy ($p = 0.028$), low birth weight ($p = 0.052$).

It was possible to confirm the presence of hypertension on the day of monitoring in patients of the 1st group only in 78.1% of cases. Moreover, the average values of SBP and DBP did not exceed the critical values of the “norm” either during the day or during periods of wakefulness and sleep. Thus, for early diagnosis of hypertension in young patients in rare episodes of increased blood pressure, the assessment of the average values of the main ABPM indicators alone is not enough. In this regard, we carried out a comprehensive analysis of all components of the daily blood pressure profile.

A significant increase in mean hemodynamic pressure (SHP) and pulse arterial pressure (PAP) in patients of the 2nd group confirmed the presence of stable AH in them. Meanwhile, in group 1, despite the small number of episodes of increased blood pressure on the day of monitoring, GBP also exceeded the allowable values, including in comparison with the control group. Such a trend towards an increase in SGD is due to a qualitatively new restructuring of hemodynamics in the initial stages of AH due to an inadequate decrease in peripheral vascular tone. PAP values in different periods of monitoring in patients of group 1 were in the range of 41–52 mm Hg. Art. and only in 31.4% of cases were elevated, indicating the likelihood of a very early development of complications in this group of patients. A significant proportion of young people of the 1st and 2nd groups had a prognostically unfavorable variant of the circadian profile of SBP (54.4 and 62.3%, respectively) and DBP (50.9 and 69.8%, respectively), which indicated the presence of an unfavorable rhythm functioning of the sympathetic division of the ANS.

Therefore, the diagnosis of hypertension in young people should be based on both daytime measurements of blood pressure and the results of ABPM. However, when comparing group 1 SBP load indicators with healthy peers, a significant increase was noted during the day (5 times) and at night (4 times) hours. DBP load during daytime and nighttime in group 1 was 2 times higher on average. Thus, a multiple increase in hyperbaric load on target organs with an insignificant, at first glance, rise in the average values of SBP and DBP in this group of patients most clearly demonstrates the essence of “hidden” changes in the functioning of the cardiovascular system in the early stages of AH at a young age. The daily profile of group 2 was characterized by a higher level of pressure load during all monitoring periods, exceeding the values of the control group by 8–9 times.

The results of ABPM indicate that a diagnostically significant excess of the recommended norms is observed only in patients with stable hypertension of I-II degree, that is, with a high pressure load on target organs. In individuals with a transient increase in blood pressure, the average values of SBP and DBP on the day of monitoring may remain unchanged. At the same time, such indicators as SGD, PBP, IV can change significantly. Therefore, when diagnosing hypertension, a comprehensive assessment of all parameters of the daily blood pressure profile is required, which will allow primary care physicians, specialized departments of hospitals to reveal the essence of the existing discrepancies in the conclusions of ABPM and the results of clinical measurements of blood pressure in young people with rare episodes of increased blood pressure and determine the tactics of managing young patients.

Literature

1. Burtsev V.I. Modern issues of differential diagnosis and differentiated treatment of arterial hypertension \\\ Clinical medicine. 2000. No. 8. pp.75-78.
2. Zakharevich O.A., Leonova M.V. The study of quality of life in patients with arterial hypertension: assessment methods and significance in clinical practice\\International Medical Journal. 2001. No. 5. pp.412-416.
3. Kislyak O.A., Storzhakov G.I., Petrova E.I., Duda S.G. Daily monitoring of blood pressure in adolescents and young people \\\ Ros. Honey. Journal. 2004. No. 3.S. 49-51.
4. Konradi A.O., Soboleva A.V., Maksimova T.A. Educating hypertensive patients is a waste of time or a real tool in improving the quality of disease control? \\\ Arterial hypertension. 2002. T 8. No. 6. S.217-219.
5. Korenova O.Yu. Methodology for providing medical and preventive care to patients with arterial hypertension: methods of optimization and ways of implementation. Abstract dis ... Dr. med. Sciences. Omsk, 2004. 39 p.

6. Nesterov Yu.I., Lazareva O.A., Horoshaya L.N. Comparative characteristics of the quality of treatment of patients with arterial hypertension in primary health care \ Therapist. Arch. 2006.№1. pp.16-19.
7. Oganov R.G. Prevention of cardiovascular diseases: the possibilities of practical health care // Cardiovasc. Therapy and prevention. 2012.№1. S.5-9.
8. Povstyanaya A.N. Early diagnosis of arterial hypertension in young people in the practice of a family doctor. Candidate of Medical Sciences Dis. Omsk. 2005. 207 p.
9. Beto J. Bansal V. Quality of life in treatment of hypertension: a metaanalysis of clinical trials \J. Hypertens. 2009. №3. P. 123-132.

