

New Day in Medicine Новый День в Медицине NDI



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Ilmiy referativ, marifiy-ma'naviy jurnal







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12 (74) 2024

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Илмий-рефератив, матнавий-матрифий журнал Научно-реферативный, духовно-просветительский журнал

УЧРЕДИТЕЛИ:

БУХАРСКИЙ ГОСУДАРСТВЕННЫЙ МЕДИЦИНСКИЙ ИНСТИТУТ ООО «ТИББИЁТДА ЯНГИ КУН»

Национальный медицинский исследовательский центр хирургии имени А.В. Вишневского является генеральным научно-практическим консультантом редакции

Журнал был включен в список журнальных изданий, рецензируемых Высшей Аттестационной Комиссией Республики Узбекистан (Протокол № 201/03 от 30.12.2013 г.)

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12 (74)

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https://newdaymedicine.com E:

Received: 20.11.2024, Accepted: 03.12.2024, Published: 10.12.2024

UDC 616.24-002.5-616.24-007

MODERN APPROACH TO DIAGNOSIS AND TREATMENT OF RECURRENT **PULMONARY TUBERCULOSIS**

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✓ Resume

Analysis of the causes of relapses showed that the most common causes are unauthorized discontinuation of treatment (5 patients or 31.2%), concomitant diseases - (4 (25%), diabetes mellitus and HIV infection in 2 cases each), frequent colds and poor nutrition in 4 patients (25%), an associative lifestyle - 3 (18.7%). The overwhelming majority of patients with relapses had secondary education - 45 (68.2%) and in one case - higher education.

Complications in patients with relapses were detected in 30 (45.5%) patients: LSN-3 - 18.7%, DN -83.3% (25 patients), Hypotrophy - 19 - 63.3%, Hemoptysis - 13 - 43.3%.

The main clinical forms of tuberculosis among patients with relapse were predominantly destructive forms of the disease.

Pronounced residual changes in the lungs after completion of the course of therapy are potentially more active and increase the risk of relapse of the tuberculosis process in the lungs.

Key words: problems in the modern approach to the diagnosis of pulmonary tuberculosis, treatment of relapses of pulmonary tuberculosis.

СОВРЕМЕННЫЙ ПОДХОД В ДИАГНОСТИКЕ И ЛЕЧЕНИИ РЕЦИДИВОВ ТУБЕРКУЛЕЗА ЛЕГКИХ

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✓ Резюме

Анализ причин рецидивов показал, что наиболее частыми причинами являются самостоятельное продолжение лечения (5 больных или 31,2%), сопутствующие заболевания -(4 (25%), сахарный диабет и ВИЧ-инфекция по 2 случая), частые простудные заболевания и плохая самочувствительность питание - у 4 больных (25%), ассоииативный образ жизни - у 3 (18,7%). Подавляющее большинство больных с рецидивами имело среднее образование - 45 (68,2%) и в одном случае - высшее.

Осложнения у больных с рецидивами выявлены у 30 (45,5%) больных: ЛСН-3 - 18,7%, ДН -83,3% (25 больных), Гипотрофия - 19 - 63,3%, Кровохарканье - 13 - 43,3%.

Основными клиническими формами туберкулеза среди больных с рецидивами были преимущественно деструктивные формы заболевания.

Выраженные остаточные изменения в легких после завершения курса терапии потенциально более активны и повышают риск рецидива туберкулезного процесса в легких.

Ключевые слова: проблемы современного подхода к диагностике туберкулеза легких, лечение рецидивов туберкулеза легких.

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✓ Rezyume

Qaytarilish sabablarini tahlil qilish shuni ko'rsatdiki, eng ko'p uchraydigan sabablar davolanishni ruxsatsiz to'xtatish (5 bemor yoki 31,2%), birga keladigan kasalliklar - (4 (25%)), qandli diabet va OIV infektsiyasi har birida 2 tadan), tez-tez shamollash va kambag'al. 4 bemorda ovqatlanish (25%), assotsiativ turmush tarzi - 3 (18,7%). Relaps bilan og'rigan bemorlarning aksariyati o'rta ma'lumotga ega - 45 (68,2%) va bir holatda - oliy ma'lumot.

30 (45,5%) bemorda relaps bilan og'rigan bemorlarda asoratlar aniqlandi: LSN-3 - 18,7%, DN -83,3% (25 bemor), Gipotrofiya - 19 - 63,3%, Gemoptizis - 13 - 43,3%.

Kasallikning qaytalanishi bilan og'rigan bemorlarda silning asosiy klinik shakllari asosan kasallikning halokatli shakllari edi.

Davolash kursi tugagandan so'ng o'pkada sezilarli qoldiq o'zgarishlar potentsial faolroq bo'lib, o'pkada sil kasalligining qaytalanish xavfini oshiradi.

Kalit so'zlar: o'pka sili diagnostikasiga zamonaviy yondashuv muammolari, o'pka tuberkulyozining relapslarini davolash.

Relevance

uberculosis is prevalent in every part of the world. There is not a single country where 1 tuberculosis has ever been eradicated.

In the Republic of Uzbekistan, the incidence of tuberculosis has remained high in recent years. In 2021, the incidence rate was 35.2 per 100,000 population. The effectiveness of treatment of all newly diagnosed patients with tuberculosis in the Republic of Uzbekistan in 2021 was 87.6%.

To date, comparison of the clinical course of the process and the effectiveness of treatment of pulmonary tuberculosis in the presence of MBT resistance to ABP, taking into account the immunobiological properties and reactivity of the human body, remains poorly studied, and is of interest. Increasing the effectiveness of treatment of newly diagnosed patients with pulmonary tuberculosis by studying the risk factors for relapse and developing measures to prevent them is achieved through timely diagnosis of tuberculosis. This task is faced by phthisiologists in relation to diagnosing relapses of tuberculosis in previously treated patients. To do this, it is necessary to know the clinical course of pulmonary tuberculosis in newly diagnosed patients and patients with a relapse, as well as the effectiveness of chemotherapy and the outcomes of the initial course of treatment. At the same time, great importance should be given to comparative bacteriological and molecular genetic studies of M. tuberculosis strains isolated from patients with tuberculosis in primary and recurrent disease, to show the role of primary drug resistance of MBT in the occurrence of early relapses, as well as the introduction of modern biochemical research methods.

Relapses of pulmonary tuberculosis are characterized by widespread destructive lung lesions, severe clinical manifestations of the disease, massive bacterial excretion, and a high level of drug resistance of M. tuberculosis. A special role in the development of relapses of tuberculosis of the respiratory organs is played by the presence of primary drug resistance, especially MDR MBT; the presence of concomitant pathology, chronic alcoholism; and the inadequacy of the initial course of treatment. In the case of repeated registration of patients, both true relapses of tuberculosis of the respiratory organs and repeated diseases as a result of exogenous superinfection occur.

Relapses of pulmonary tuberculosis are characterized by more severe clinical and radiological manifestations of the disease compared to the newly identified process, which are reflected in severe or moderate intoxication syndrome, the presence of complications, significant prevalence of the process, the presence of formed decay cavities. Patients with relapses of pulmonary tuberculosis represent a greater epidemic danger due to the massiveness of bacterial excretion.

Purpose of the study: To study the problems of the modern approach in the diagnosis and treatment of recurrent pulmonary tuberculosis.

Materials and methods

In order to study the clinical course of pulmonary tuberculosis in newly diagnosed patients and to improve the effectiveness of treatment, a comprehensive examination of 160 newly diagnosed and 66 patients with relapses aged 17 to 70 years was conducted.

The general clinical examination included a detailed analysis of the epidemiological anamnesis and the anamnesis of the disease and life of patients. When studying the course of pulmonary tuberculosis



in newly diagnosed patients, the duration of the disease, the characteristics of treatment before admission to the clinic, adverse reactions to chemotherapy drugs and their nature, the relationship of the disease with the social status of patients were taken into account. In the anamnesis of life, significant importance was given to the presence of bad habits, past and concomitant diseases.

Upon admission to the clinic, each patient underwent a 3-fold bacterioscopic examination of sputum smear for MBT according to Ziehl-Neelsen.

Sputum was cultured on dense nutrient media of Lowenstein-Jensen. The methods MGIT, H a in test (Genotype INA and Genotype RMP), Gene Xpert/RIF as an express method and determination of MBT genotypes were used.

Radiographic examination methods were used upon admission and every 2 months of treatment. Direct and, if indicated, lateral radiography and, depending on the nature of the lesion, multispiral computed tomography (MSCT) were performed. In some cases, radiography was repeated more frequently.

General blood and urine tests, which are part of the general diagnostic minimum, were performed on all patients. If necessary, additional urine tests were used (Zimnitsky, Nechiporenko tests), determination of urea and blood sugar levels.

Result and discussions

As can be seen, among men, the majority were people aged 21-40 (50.5%), among women, the younger ones were 21-30 (36.4%). In general, tuberculosis most often affects the most able-bodied and childbearing part of the population (from 20 to 60 years old), which causes significant economic damage to the state.

Among patients with relapses, men predominated, especially those aged 31-50 years (64.5%); relapses of pulmonary tuberculosis occurred in women aged 17-30 (23.1%) and over 51 years (33.7%).

Distribution by clinical forms of the disease among newly diagnosed patients with pulmonary tuberculosis was as follows: more than a third were diagnosed with infiltrative forms of the process -67.5%, followed by focal pulmonary tuberculosis -13.7%, disseminated -6.9% and fibro-cavernous pulmonary tuberculosis (FCT) -3.75% of patients. Other forms of tuberculosis (tuberculous pleurisy, cavernous, tuberculoma, caseous pneumonia) were less common -7.9% of cases.

When distributing the disease by clinical forms among patients with relapse of pulmonary tuberculosis, attention is drawn to the sharp increase in patients with fibrous-cavernous pulmonary tuberculosis - 36.6%, infiltrative tuberculosis was 43.9%. Focal, cavernous and disseminated pulmonary tuberculosis occurred in 4.5%, cirrhotic and tuberculoma in 3% of cases.

Of the newly diagnosed patients, concomitant diseases were detected in 66 patients (41.25%). Of these, the most common were: HIV infection - in 14 (15.4%) cases, diabetes mellitus - in 18 (31.8%), chronic non-specific lung diseases and anemia, respectively (12.1% and 25.8%).

In 44 (66.7%) patients with relapse, concomitant diseases were detected. Of these, diabetes mellitus in 38.6% of cases, anemia in 25%, drug addiction and HIV infection in 22.7% and 15.9%, respectively, chronic nonspecific lung diseases in 11.4%, and hepatitis in 15.9% of patients.

Complications of the underlying disease were observed in 39 (24.4%) patients among those newly diagnosed. Of these, 25 patients (64.1 %) had respiratory failure. In 12 (30.8 %), hypotrophy of varying degrees, including cachexia, was noted. In 5 (12.8 %) cases, hemoptysis was noted, and in 19 (48.7 %) cases, cardiopulmonary failure, in 2 (5.1%) cases, fibrothorax was detected, and in 1 (2.6%) patient, exudative pleurisy developed.

In 30 (45.5%) patients with relapse of pulmonary tuberculosis, complications of the disease were detected. Of these, respiratory failure (RF) was observed in 83.3% (25 patients). The presence of hypotrophy of varying degrees, up to cachexia, was noted in 19 patients (63.3%). Hemoptysis was noted in 9 (30%) cases and in 13 (43.3%) cases, cardiopulmonary failure (CPF), fibrothorax and exudative pleurisy were detected in 5 cases each (16.7%).

In 118 patients (73.7%) with newly diagnosed TB, the condition was relatively satisfactory upon admission. 22 (13.7%) patients were admitted in a moderate condition and 12 (7.5%) in a severe condition, 8 patients were admitted in a satisfactory condition, and these patients were identified during a preventive examination.

Half of the patients with relapse of pulmonary TB were in moderate condition (16 (24.4%)) and severe condition (17 (25.8%) upon admission, while the other half of the patients (50%) were in a relatively satisfactory condition.

A study of factors contributing to the development of pulmonary tuberculosis revealed that the social factor was predominant in $88 (64\pm4.1\%)$ cases.

In the group of patients with relapse of pulmonary TB, the influence of the social factor increased to 48 (73±4.1%) cases.

The pronounced degree of social maladjustment in the first identified patients is emphasized by the presence of chronic alcoholism in 23 (37.5 \pm 2.6%) patients, release from prison in 11 (12.5 \pm 1.7), lack of a permanent place of residence in 5 (3.1 \pm 1%), smoking abuse in 61 (71.9 \pm 3.5%), and drug addiction in 7 patients. The lack of a permanent source of income was noted by 75 (46.8 \pm 4.4%) patients. The educational level was low. Thus, 5 (3.1 \pm 1%) patients had incomplete secondary education, 132 (82.5 \pm 3.5%) had secondary education, and only 23 (14.4 \pm 2.6%) had higher education.

In the anamnesis, 43 ($26.9\pm2.9\%$) patients had contact with patients with destructive forms of pulmonary tuberculosis (with husband, father, mother, sisters and brothers) and 8 ($5\pm1.4\%$) at work, with neighbors. Thus, in the development of tuberculosis in the examined patients with newly diagnosed pulmonary tuberculosis, family contact and contact with close relatives occupied a significant place.

More than half of the patients with relapses of TB - 49 (74.2 \pm 7.4%) did not have a permanent source of income, 27 (41 \pm 2.6%) patients were found to have chronic alcoholism, 15 (22.5 \pm 1.7) were released from prison, lack of a permanent place of residence was revealed in 6 (9.1 \pm 2%), smoking abuse was 40 (60.6 \pm 6.5%), and drug addiction was 7 patients. A low level of education was noted, including: incomplete secondary education was in 8 (12.1 \pm 3.4%) patients, secondary - in 43 (26.9 \pm 3.5%) and higher - in 15 (22.7 \pm 2.6%).

From the anamnesis, 26 (39.4±3.9%) patients had contacts with patients who were carriers of bacteria, husband, father, mother, sisters and brothers.

Both newly diagnosed patients with pulmonary TB and patients with recurrent TB (Fig. 1) showed symptoms of severe intoxication: severe weakness in 124 (96.9 \pm 1.5%) patients, increased body temperature to 38°C and higher in 123 (96.1 \pm 1.7%), decreased appetite in 117 (91.4 \pm 2.5%), increased sweating in 112 (87.5 \pm 2.9%), weight loss in 111 (86.7 \pm 3.0%), palpitations in 101 (78.9 \pm 3.6%), headaches in 76 (59.4 \pm 4.3%), and chills in 60 (46.9 \pm 4.4%).

Bronchopulmonary symptoms among patients with newly diagnosed pulmonary TB were observed in 124 patients. Thus, 124 (77.5 \pm 2.5%) patients had persistent cough (of which 106 (66.25 \pm 3.3%) had sputum), 46 (28.75 \pm 4.4%) had chest pain, 44 (27.5 \pm 4.3%) had dyspnea (to varying degrees). Bronchopulmonary symptoms often manifested themselves as periodic hemoptysis in 17 (10.9 \pm 2.8%) and bleeding in 5 (3.1 \pm 1.3%).

Bronchopulmonary symptoms in patients with relapses were more pronounced and were observed in 55 patients. Of these, 53 ($80.3\pm2.5\%$) patients had persistent cough with sputum, 16 ($24.2\pm4.4\%$) had chest pain, and 32 ($48.5\pm4.3\%$) had dyspnea (to varying degrees). Bronchopulmonary symptoms often manifested themselves as periodic hemoptysis in 9 ($13.6\pm2.8\%$) and bleeding in 3 ($4.5\pm1.3\%$).

The hemogram examination showed the presence of leukocytosis in 57 (44.6 \pm 4.4%) cases of patients with newly diagnosed pulmonary TB and in 33 patients with relapse. Segmented neurotrophilia – 37 (28.9 \pm 4.0%), band neutrophilia – 53 (41.4 \pm 4.3%), lymphopenia – 70 (54.7 \pm 4.4%), monocytosis – 18 (14.1 \pm 3.1%), increased ESR – in 125 (97.7 \pm 1.3%) patients.

Radiographic examination (Table 1) showed that in 108 (67.5±4.2%) cases among newly diagnosed patients a unilateral process was noted and in 52 (32.5±4.2%) a bilateral process was noted. In 102 (63.7±3%) patients the presence of destructive changes with dissemination and pronounced infiltration was revealed.

In patients with relapses of pulmonary tuberculosis, a bilateral process predominates 30 (64.8±4.2%) with destructive changes, dissemination and pronounced infiltration in 55 (83.3±3%) patients.

MBT in relapsed tuberculosis (12% of cases) did not show visible growth until the 20th-25th day, in 62 cases (88.6%) colony growth was noted from the 30th-35th day of sowing, which indicates the presence of slow-growing MBT in patients with relapsed tuberculosis who had previously received



anti-tuberculosis therapy. The growth of MBT culture in patients with relapsed tuberculosis was on average 2 weeks slower than in newly diagnosed patients.

In epidemiological terms, the most dangerous were 56 (59%) newly diagnosed patients, in whom MBT was detected by bacterioscopy. In 79 (83.2%) patients, MBT was detected by bacteriological method. The total number of bacteria excretors among newly diagnosed patients was 95 (59.4%) patients.

Among patients with relapses of the tuberculosis process, bacterial excretion was detected in 36 patients (54.5%). Of these, in 18 (50%) MBT were detected by bacterioscopy and 24 (66.7%) by bacteriological method.

As a result of the study of sensitivity to anti-tuberculosis drugs, in 15 (22.7%) cases in patients with relapses, the presence of resistant strains of MBT was noted.

42 (63.6%) patients whose MBT were sensitive to first-line drugs were treated according to category II and 9 patients (13.7%) were treated according to an individual regimen with first-line

An individual treatment regimen was developed due to intolerance to antibacterial drugs due to the presence of concomitant diseases.

Conclusion

Analysis of the causes of relapses showed that the most common causes are unauthorized discontinuation of treatment (5 patients or 31.2%), concomitant diseases - (4 (25%), diabetes mellitus and HIV infection in 2 cases each), frequent colds and poor nutrition in 4 patients (25%), an associative lifestyle - 3 (18.7%). The overwhelming majority of patients with relapses had secondary education - 45 (68.2%) and in one case - higher education.

Complications in patients with relapses were detected in 30 (45.5%) patients: LSN-3 - 18.7%, DN -83.3% (25 patients), Hypotrophy - 19 - 63.3%, Hemoptysis - 13 - 43.3%.

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Entered 20.11.2024

