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## 137 CLINICO-IMMUNOLOGICAL CRITERIA OF TUBERCULOSIS ANTIBACTERIAL AND PATHOGENETIC TREATMENT

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The aim of this study was to work out immunological indications for application in tuberculosis practice individual schedules of Rifampicin and immunomodulators (Tymalin, Tymogen, Levamisol, Indometacin, Retinol) for increase the effect of the tuberculosis patients complex treatment.

In 814 patients with acute tuberculosis the secondary immunodeficiency was occured as T-cells insufficiency, B-lymphocites disfunction, tuberculin allergy, autoimmune processes were revealed. The intensity of this change depends on the disease spreading and severity.

For determination of the criterion for differential using of rifampicin or adding of the immunomodulators to complex therapy of lung tuberculosis the method of determination of sensitivity of lymphocytes in vitro tests to different doses of preparation which gives possibility to individualise the schedules of their applicaton was developed. It was defined, that individual usage of Rifampicine and immunomodulators at severe stage of disease in higher degree than standard application of the same drugs improve the immune reactivity. It was determined, that frequency and date of disappearence of intoxication, the end of micobacterium discharge and close of cavites were achieved more often and earlier with proposed differential application of Rifampicine and immunocorrective therapy than with regular use.

## 138 THE TREATMENT OF INH-RMP TUBERCULOSIS RESISTANT CASES

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The most serious failure of chemotherapy of tuberculosis is the emergence of multiresistant bacilli to drugs, particularly INH and RMP. The selection of resistant bacilli is always due to an inadequate prescription or intake of the drugs.

Previously treated patients or chronic cases excreting bacilli represent the major risk group in which the identification of the resistant strains must be done by sensitivity testing, if available and reliable.

Treatment of multi-resistant cases is difficult: second-line drugs are not so numerous and not easily available; they are expensive and they induce side-effects.

The results of the retreatment regimes are poor: less than 50 % of bacteriological conversions are generally registered.

The prevention of multi-resistant cases must represent a higher priority.

This prevention is obtained by a strict prescription of the drugs, a strict control of the compliance of patients and overall, a standardization of the chemotherapy regimens into the frame of a National Tuberculosis Control Programme.

## 139 A RAPID SEROLOGICAL ASSAY FOR THE DIAGNOSIS OF ACTIVE MYCOBACTERIAL DISEASE

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DynaGen, Inc. has developed and evaluated a rapid test, MycoDot™, that detects antimycobacterial antibodies in patient serum or blood as an aid in the diagnosis of active mycobacterial diseases such as tuberculosis (TB). The test is simple, rapid (20 minutes), and requires no instrumentation. Healthy individuals infected with mycobacteria (PPD positive) and healthy BCG-vaccinated individuals will test negative by MycoDot™. This test has been evaluated in India, Bolivia, Romania, and in Boston, USA. A total of 1,750 samples were evaluated including 585 from TB patients and 1,165 from controls. The control population included healthy individuals as well as individuals with upper respiratory disease, and other diseases. MycoDot™ offers a one visit, low cost diagnosis with a sensitivity of at least 83 % and a specificity of 96 % when used in tandem with the results of the acid-fast bacillus (AFB) smear. We conclude that, when used in conjunction with a clinical evaluation, the MycoDot™ test has strong potential as a diagnostic tool for suspected cases of pulmonary and extrapulmonary tuberculosis.

## 140 RAPID IDENTIFICATION OF PNEUMOCOCCI ON THE BASIS OF THE IMMUNO BLOTTING OF PROTEIN ANTIGENS

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We developed a simple method for the isolation of immunochemically active pneumococcal antigens and analyzed their variability in the pneumococcal strain of the international collection. The freeze-dried protein preparations of 90 pneumococcal strains of known serotype were subjected to SDS gel electrophoresis with immunoblotting. Immunochemically active components were detected with the use of blood sera from patients with bacteriologically identified pneumococcal infection, as well as blood sera from clinically healthy adult donors. After electrophoresis and immunoblotting the protein components of the mixture were identified densitometrically. The reaction of blood sera taken from patients with pneumococcal infection at the acute stage of the disease differed from that of blood sera from healthy donors, though in all of them proteins with the same molecular weight could be detected. On the basis of the results obtained by the analysis of the signs established in this study the classification of the known strains in accordance with their content of immunochemically active protein antigens of pneumococci is proposed. The possibility of using the proposed classification for the protein subtyping of clinical pneumococcal strains is considered.

## 141 VIRUS-VIRUS AND VIRUS-BACTERIUM ASSOCIATIONS IN THE ETIOLOGY OF TUBERCULOUS AND NONTUBERCULOUS PNEUMOPATIA, DURING INFLUENZA SEASON

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The morbidity data of acute respiratory infections and influenza, registered mainly from children population, that are very receptive, confirmed their already known seasonality. The sero-epidemiological survey of the general population, revealed the dominant etiological role of type A-$N_1H_1$-Singapore and $N_2H_2$-Beijing influenza viruses, both in children and in adults. The etiology of

epidemic influenza and of clinical cases of pneumopatia has been determined by means of laboratory assessements (virus isolation, indirect immunofluorescence, specific serologic tests). The type A influenza virus was incriminated in 60% of the cases and in 35% of the cases was incriminated the association of influenza virus with parainfluenza viruses, adenoviruses, coronaviruses and S.R. virus. In a small number of cases (children) with severe respiratory diseases, the examination of tracheo-bronchic aspirate was positive for bacteria and fungi. The association virus-bacteria was found in 96% of these cases, confirming the gravity of their evolution and prognostic. Further studies, with particular reference to the etiology of severe respiratory diseases, are required, enabling thus a real evaluation of infectious morbidity and an adequate approach of treatment.

## 142 ELISA IN THE SERODIAGNOSIS OF ACTIVE TUBERCULOSIS

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This study was undertaken to evalute the role of ELISA in the diagnosis of active Tuberculosis. Using PPD-298 as the antigen serum levels of anti-PPD IgG ($\gamma$-chain specific) antibodies were measured in the following groups of patients of 25 cases each:

1. Pulmonary tuberculosis (Sputum Positive)
2. Pulmonary tuberculosis (Sputum Negative)
3. Non-tubercular mycobacteriosis.
4. Tubercular Lymphadenitis.
5. Abdominal Tuberculosis.
6. Bone & Joint tuberculosis
7. Tubercular Pleural Effusion.
8. Milliary Tuberculosis
9. Neurotuberculosis.
10. Renal and Urinary track tuberculosis.
11. Skin Tuberculosis.
12. Tuberculosis of EYE.
13. Tubercular Laryngitis.
14. Genital tuberculosis.
15. Quescent cases.
16. BCG Vaccinated Normal Individuals.
17. Normal Individuals (Monteux Positive).
18. Normal Individuals (Monteux Negative).

The mean ELISA value in patients was significantly higher as compared to controls ($P < .001$).

(Work done at Department of Chest and Tuberculosis and Department of Biochemistry Medical College, Rohtak [Haryana], India.)

## 143 CHARACTERIZATION OF MYCOBACTERIUM BOVIS STRAINS IN ARGENTINA BY GENETIC FINGERPRINTING

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The insertion sequence IS 6110 identified in *M. tuberculosis* Complex (MT), has proved to be an extremely suitable tool for the epidemiology of human TB. Our study was aimed to determine whether DNA fingerprinting of *M. bovis* (MB) isolates using IS 6110 would be useful in the epidemiological surveillance of bovine TB in Argentina. Chromosomal DNA was digested with PvuII endonuclease and hybridized with 2 probes corresponding to different regions of IS 6110: probe 1 corresponds to a 245 bp fragment obtained by PCR in a region situated to the right of the PvuII site in IS 6110, and probe 2 corresponds to a 1.9 kb DNA fragment situated at both sides of PvuII, and also in multiple direct rapid (DRs) which flanks to the left the IS element, (probe 5030).

A total of 58 MB strains isolated from different mammalian species: 48 bovines, 5 felines (cats), one Camelidae (llama), and 4 seals; and other 19 MB isolates form TB patients, were included in the study. The 245 bp probe hybridized with an unique 1.9 KG restriction fragment in 64 MB strains, and either with one fragment in a different position or with more than ohne fragment in other 13 strains- isolated from 8 bovines, 1 llama, 2 cats and 2 TB patients. The restriction fragment patterns of four MB strains from seals were identical and clearly different from all the remaining MB strains. The use of the 5030 probe allowed us to confirm transmission of infection in a herd where 2 MB isolates from 2 cows were identical, and different from all other isolates found in that region.

Most of these Argentine MB strains presented only one copy of IS 6110, and that limits further use of this element for epidemiological surveillance.

## 144 AN M. BOVIS BCG CELL WALL GLICOPEPTID - EIA FOR ANTITUBERCULOSIS ANTIBODIES DETECTION

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Enzyme-linked immunoassay (EIA) are widely used in clinical practic for antimycobacterial antibody detection still, the development of more EIA-variant, based on new more specific micobacteria-derived antigens is never stopped.

An antigenic preparat from M. bovis BCG (Russia) cell wall was purified by Triton X-100 extraction will subsequent auton sedimentation and ether treatment. This complex antigen was named Triton fraction (TF). It contains three serologically active antigenic determinant identical to those of Triton fractions separated from virulent micobacterial strains M. bovis and M. humanus.

This provides us the opportunity to use it in EIA test system for specific antibodies detection in lung tuberculosis patient's sera. With serum sample, deluting 1:200 the sensitivity of this method ranges from 71% to 91% depending on the form and activity of lung tuberculosis process. The same dilution of sera from the group of healthy blood donors gave 93% specificity of the test. No more than 10% false-positive results were obtained while testing 1:200 diluted sera from non-tuberculosis lung patients. The method described is used to confirm the diagnosis of tuberculosis in clinical practice as well as for high risk groups detection in mass surveys at epidemic centres.

## 145 SEASONAL VARIATION IN THE CULTURE RATE OF M. TUBERCULOSIS IN CHILDREN

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Repiratory infections reach a peak in autumn and winter and at our hospital, situated in an area with a high