

**SUMMARIES OF THE PAPERS PRESENTED AT THE 49TH NATIONAL
CONFERENCE ON TUBERCULOSIS AND CHEST DISEASES HELD AT
PONDICHERRY FROM 6TH TO 9TH OCTOBER, 1994**

**PERFORMANCE OF NATIONAL TUBERCULOSIS PROGRAMME, 1993:
AN APPRAISAL**

L. Suryanarayana, K. Vembu, R. Rajalakshmi and C. Satyanarayana

(Paper is being published in full)

**A STUDY ON RESPIRATORY DISORDERS AMONG WORKERS
IN A RAILWAY WORKSHOP**

S.K. Gupta

(Paper will be published in full in a subsequent issue)

INDIAN NATIONAL TUBERCULOSIS PROGRAMME : REVISED NTP

Rohit Sarin and L.B.S. Dey

(Paper is being published in full)

**EFFECT OF INHALED STEROID BUDESONIDE ON PULMONARY
HYPERINFLATION IN CHRONIC BRONCHIAL ASTHMA**

M. Das, S.N. Tripathy, N.K. Gachhayat and S. Das

In bronchial asthma much significance has recently been attached to submucosal oedema, airway inflammation and bronchial hyperreactivity (BHR).

Thirty two chronic asthmatics partially refractory to routine bronchodilators but in stable state were taken into a study to find out the prevalence of lung hyperinflation and the effect of Budesonide on it. Static and dynamic pulmonary functional parameters were measured, before starting Budesonide and after 2 weeks and 4 weeks of inhalation therapy with the steroid

delivered as 2 puffs (200 meg) 6 hourly through a 750 ml spacer. Mean TLC was 127% and R.V. 201% of predicted values in the pretreatment phase, falling to 114% and 146% respectively after 4 weeks, of treatment. Dynamic values rose correspondingly after 4 weeks' treatment, PEFr going up from 62.98% to 94.34% and FEV₁ from 64.62% to 93.44% of predicted values.

It is concluded that considerable hyperinflation exists in chronic asthma, and that Budesonide inhalation results in significant improvement in respiratory functions.

PNEUMO-MEDIASTINUM AND PNEUMOTHORAX COMPLICATING ASTHMA IN CHILDREN - AMARGADH EXPERIENCE

A.L. Anand

Of about 1,000 asthmatic children followed over a period of time extending to 20 years, 20 developed pneumothorax and/or pneumo-mediastinum following acute exacerbations. Five had pneumo-mediastinum while pneumothorax was seen in 15, unilateral and non-recurrent in 6 and unilateral recurrent in 3, bilateral in one case, and partial in 6. Small pleural effusions were encountered in 4 cases. These complications are suggested when dyspnoea is very severe and there is pain in chest. Pneumo-mediastinum can be diagnosed by hearing a crackling sound after or during the systolic phase of the heart beat,

crackling feel at the root of the neck, and roentgenogram, where streaky translucency is seen over the cardiac opacity. Sometimes, we can see a border of air between the heart shadow and the lung. Pneumothorax is usually benign and self-limiting, but intercostal intubation may be required. Pneumo-mediastinum can be life threatening as mediastinal vessels may get compressed, leading to lowered cardiac output and hypoxia of vital structures. Immediate decompression by surgical intervention is necessary, especially in infants.

IMPACT OF PREVIOUS BCG VACCINATION ON ADULT PULMONARY TUBERCULOSIS

Samresh Sahu and B.N. Panda

All serving soldiers admitted to an Armed Forces Chest Disease Hospital were examined with special reference to presence or absence of BCG vaccination scar. Nearly 60% of them had BCG scar over left deltoid area, and 26% had

2 scars or more. Analysis showed a significantly higher incidence of cavitory disease and sputum positivity in vaccinated group than non-vaccinated group. However, disseminated disease was evenly distributed in vaccinated and non-vaccinated groups.

TREATMENT COMPLIANCE IN RURAL CASES OF PULMONARY TUBERCULOSIS WITH FREE DOORSTEP DRUG DELIVERY ORGANISED FROM A MOBILE CHEST CLINIC

S.K. Katiyar, R.P. Singh, Sudhir Chaudhri, K.P. Singh, R.S. Pal and H.M. Kansal

An attempt was made to assess various factors contributing to poor treatment compliance in cases of pulmonary tuberculosis in the rural population of Kanpur District. A mobile van equipped with 100 MA X-ray plant with screening facilities, pathology lab, E.C.G. machine etc. and a jeep for use by a team of doctors including consultant, medical officer, residents and interns, a social worker and technicians were deployed. A detailed survey of 91 villages was undertaken.

Each household was visited and details of family were recorded in a pre-set proforma. All individuals were questioned for symptoms, screened and fully investigated. Besides the survey in the 91 villages, 58 case-finding camps were held in the same area. Tuberculosis cases among them were registered for anti-tuberculosis treatment. Drugs were given at the time of registration and, thereafter, distributed fortnightly from nearby drug collection centres. When patient did not turn

up on scheduled date to collect the drugs, three defaulter actions were taken : Action 1st : 1 to 7 days after, Action 2nd : 8 to 14 days after and Action 3rd : 15 to 21 days after. The patients were labeled as "Lost Cases" if they did not turn up even after the third defaulter action.

In all 14 treatment centres were established, each reachable from the villages, mostly within a kilometer and others within one to four kms. The treatment centres were visited by the mobile medical team regularly once a week. Thus, from July 1992 to June 1994, 104 visits were scheduled and paid to these centres. Both traditional and short course regimens were offered using Isoniazid, Rifampicin, Streptomycin and Thioacetazone.

Five hundred tuberculosis cases were detected among the 1,35,650 screened rural population and were registered for treatment. One hundred sixty two cases defaulted, once or several times. There were 9 patients who made multiple defaults. The total number of defaults was 177. However,

50 (30.91%) cases were retrieved after defaulter action. Among 112 (69.1%) not retrieved cases, defaulter action could not be completed in 70 due to inadequate or wrong address. Treatment compliance was found to be associated with sex, socio-economic status, regimen and distance of residence of patient. However, it was not associated with marital status, literacy and type of service offered. Maximum default was observed within the initial 3 months of chemotherapy (61.72%), and, 88.8% patients defaulted within 6 months of chemotherapy. Default rate was significantly higher in regimens having Thioacetazone and not containing Streptomycin. However, regimen had no impact on retrieval of defaulters. Among various cases of default, unawareness (19.7%), forgetfulness (6.2), relief of symptoms (4.3%) and adverse reactions (6.2%) came out as important factors. Multiple defaulters (9) were mainly alcoholics and/or drug addicts. Door to door services proved to be better than the camp services.

RESULTS OF THREE YEARS' FOLLOW-UP OF PULMONARY TUBERCULOSIS CASES TREATED WITH SHORT COURSE CHEMOTHERAPY

T. Shaw and P.A. Deshmukh

Outcome of follow-up for a minimum period of three years after the successful completion of short course chemo-therapy of 500 patients of pulmonary tuberculosis, selected during the period 1989-90 from A.D.M. Hospital, Jamshedpur, is presented. All the patients were previously untreated, sputum positive, and were treated with EiHR & EHRZ regimens on daily basis, in the hospital initially during the intensive phase of chemotherapy and later through domiciliary treatment. After completion of chemotherapy, there was complete radiological clearance of

lesions in 188 (37.6%) cases. Residual cavity persisted in 56 (11.2%) out of 236 initial cavitary disease.

Relapses occurred in 13 patients i.e. 2.6% during the follow-up period of 3 years after cessation of therapy and a majority of them (9 out of 13) had relapsed during the first year of follow-up. Eight patients out of 56 cavitary cases relapsed whereas only 5 out of 444 non-cavitary cases relapsed.

MANAGEMENT OF DRUG RESISTANT TUBERCULOSIS

S.N. Tripathy, N.K. Das, R.N. Mania and Jyoti Patnaik,

A retrospective study of 77 cases who were found to have multidrug acquired resistance was

undertaken. Of the 77 cases, 47 were resistant to Rifampicin, 44 to Isoniazid, 31 to Streptomycin,

22 to Ethionamide and 4 to PAS. Mullidrug resistance was : to H and R 39 (50.7%), to S, H and R 25 (32.5%) and to SHRE 16 (20.8%).

Of the 77 cases, only 24 cases agreed to

be hospitalized and-get treated with suitable regimens using Kanamycin, Isoniazid, Ethionamide, Cycloserine, PAS and Ciprofloxacin. At the end of 6 months of treatment, 19 had converted to negative sputum and 4 were dead.

ARTIFICIAL PNEUMOPERITONEUM IN DRUG RESISTANT CASES OF PULMONARY TUBERCULOSIS

B. Raj, Kamal Arora, K.B. Gupta & Ashok Janmeja

Eight patients of pulmonary tuberculosis secreting resistant mycobacteria, evidenced by failure to convert after 2 years of all usual drugs, static or deteriorating X-ray picture and/or laboratory evidence, were chosen for this study. All patients were given indicated drugs but no reserve drugs were possible. In 40 of them, pneumoperitoneum (P.P.) was administered, starting with 200 ml on day one, 800 ml on day two and maintained by weekly repeats of 1000 ml of air. The other 40 served as controls, the drug regimens being the same in both the groups.

Thirty one of the 40 patients on P.P. showed clinical improvement after 12 months compared to 19 of the 40 controls. Sputum conversion (3 smears) was obtained in 59.3% of P.P. cases against 22.1% of controls among those who completed 12 months under the study. Radiological improvement was rather slow, in 56.8% of P.P. cases and only in 16.8% of controls. Two PP cases died and 6 dropped out during study period as against 6 deaths and one drop out among controls. It is concluded that P.P. can be useful in the treatment of dru" resistant cases.

DIAGNOSTIC YIELD FROM FLEXIBLE FIBREOPTIC BRONCHOSCOPY IN SPUTUM NEGATIVE PULMONARY TUBERCULOSIS CASES

**B.N. Panda, K.E. Rajan, J. Jeana, S.K. Nema,
M. Murali and A.P. Patil**

(Paper will be published in full in a subsequent issue)

SAFETY EVALUATION OF FIBREOPTIC FLEXIBLE BRONCHOSCOPY IN ADULTS

V.K. Arora, K. Gowrinath and V. Balu

The 167 subjects who underwent FFB under Lidocaine topical anaesthesia on elective basis were divided into two groups in a randomised study: 133 with premedication (group A) and the rest without premedication (group B). Special emphasis was given to reassuring explanations before the procedure than to drugs in group B. Overall incidence of complications was the same in both the groups . Most of the complications

were minor in nature. Mean recovery time was significantly less in those without premedication (less than 30 minutes) when compared with subjects who received premedication. Young subjects (<30 years) showed anxiety reactions more often. The low incidence of complications and high degree of compliance confirm the safety of elective FFB.

TUBERCULOSIS AND HIV INFECTION

R. Jayaswal, P.N. Arora and B.N. Panda

Out of 243 HIV seropositive patients, 15 (11.9%) were diagnosed to be suffering from tuberculosis. And out of 3502 cases of tuberculosis, random HIV testing revealed HIV infection in 0.8%. Clinical and laboratory findings of all the 29 HIV infected male patients with tuberculosis, registered between January 1990 and March 1994, were evaluated.

The age group most affected with both infections (86.2%) was in the 3rd and 4th decades of life. Of them, 82.8% were married; 6.9% volunteered history of extramarital sexual exposure, and 6.9% had received blood transfusion. The mode of presentation comprised PUO in 62.1%, loss of weight in 24.1%, STD in 13.8%, lymphadenopathy in 6.9%, cough with expectoration, haemoptysis, diarrhoea, cataract and herpes zoster in 3.5% each and 10.4% were diagnosed at the time of blood donation. Mantoux test was found to be negative in 55.1% of which 17.2% converted to Mantoux positive status

(during six monthly follow up) within two years. Sputum for APR was positive in 27.6%. FNAC done in 31.0% of lymph glands revealed AFB in 13.8% and lymphnode biopsy done in 20.7% revealed tuberculous pathology in 17.8%. Radiological examination revealed parenchymatous lesions in 58.7%, pleural involvement in 24.2%, hilar and paratracheal lymphadenopathy in 17.3%. Abdominal tuberculosis was diagnosed in 3.5% and disseminated tuberculosis in 10.4%.

Therapeutic schedules followed were 2 EHRZ + 7 to 10 HR with satisfactory response. The associated diseases recorded during the period of hospitalisation were viral hepatitis, kala-azar, reactive depression, cryptococcal and cytomegalovirus infection in 3.5% each, mucocutaneous candidiasis in 6.9%, seborrhoeic dermatitis in 10.4%, herpes zoster in 13.8% and STD in 48.4% patients. A total of 6.9% cases died. Post-mortem examination revealed generalised cryptococcal infection in these.

CHANGING TREND OF HIV INFECTION AND TUBERCULOSIS IN A BOMBAY AREA SINCE 1988

K.C. Mohanty and P.M.M. Basheer

(Paper is being published in full)

THORACIC EMPYEMA - PROSPECTIVE ANALYSIS OF TREATMENT TECHNIQUES

V.K. Arora and B. Bhargav Prasad

Sixty-five subjects with thoracic empyema were treated on predetermined criteria by three different techniques.

Technique I involved repeated thoracocentesis with systemic antibiotics, usually Penicillin and Gentamycin, subject to change after sensitivity pattern of infecting organism was available. Technique II consisted of inserting drainage

tube in most dependent part of the empyema cavity along with systemic antibiotics for organisms grown on aerobic culture. The third technique was reserved for cases where thick, foul smelling pus was aspirated on diagnostic paracentesis. This involved repeated irrigation with Metronidazole, leaving Metronidazole solution in place for 6 hours, and oral Metronidazole.

In all, 14.8% of admissions for chest

conditions had empyema thoracis. The "cure" rate with technique I was 8/20 (40%), technique II 10/20 (50%) and technique III 20/25 (80%). Intercostal drainage tube placed in most dependent part with Metronidazole irrigation of pleural

cavity were considered reasons for the high cure rate in technique III. Delayed treatment of respiratory infection in primary health care delivery system was found to be the major cause for this complication.

PERIPHERAL LYMPH NODE TUBERCULOSIS IN ADULTS IN NORTH KERALA

C.M. Shyam, V. Achuthan, K.P. Govindan, N.V.V. Warriar, K.S. Menon, C. Ravindran and K.M. Ramesh Chandra Babu

This study assessed the efficacy of a short course regimen of 2 EHRZ/4HR in adult patients presenting with peripheral lymph node tuberculosis. In all, 50 consecutive adult cases of peripheral lymph node tuberculosis seen at the Department of Tuberculosis and Respiratory Diseases of Medical College, Calicut from June 1992 onwards were included in the study. All patients were fully investigated and in those with a history of extra-marital sexual contact or surgery or blood transfusion, serum was examined for HIV 1 and 2 antibodies by the ELISA test. Histological confirmation was sought by the demonstration of caseating granulomatous lymphadenitis and fine needle aspiration biopsy of the largest involved node.

Only 33% of the biopsied nodes were sent for culture and 6.7% of the 15 aspirates sent for culture grew acid fast bacilli.

Transient enlargement of the nodes occurred in 5 cases (13.6%), a new node appeared while on treatment in 1 case, and 3 cases needed surgical intervention of tense abscesses. Ulceration of the overlying skin occurred in 3 cases and sinus formation in 1 case. All these healed with continuation of chemotherapy. At the end of chemotherapy, 4 cases had residual lymphnodes (more than 0.5 cm in diameter): of these 1 disappeared in the 9th month of follow up. In the other cases, the nodes remained, but none increased in size or developed constitutional symptoms.

SOCIAL AND OPERATIONAL DETERMINANTS OF PATIENT BEHAVIOUR IN LUNG TUBERCULOSIS

S.K. Juvekar, S.N. Morankar, D.B. Dalai, S.G. Rangan, S.S. Khanvilkar, A.S. Vadair, M.W. Uplekar and A. Deshpande

(Paper is being published in full)

IPRATROPIUM BROMIDE IN COPD PATIENTS UNDERGOING FIBROPTIC BRONCHOSCOPY - COMFORT, COMPLIANCE AND COMPLICATIONS - PILOT STUDY

V.K. Arora, Uma Sankar and K. Gowrinath

Ipratropium Bromide (125 ug) was given by nebulisation premedication in 10 COPD cases submitted to fiberoptic bronchoscopy and various parameters compared with 10 others who were

not given this drug. Six patients in study group were comfortable and compliant during the procedure as against 3 among controls. No major complications were observed in either group.

EFR showed very minor post-bronchoscopy changes after Ipratropium nebulisation, compared to controls, where the fall was significant, and

there was an improvement in EFR after nebulisation. However, tenacious secretions after nebulisation were frequent.

EFFECTIVENESS OF BCG VACCINATION AGAINST PULMONARY AND EXTRAPULMONARY TUBERCULOSIS - A CASE CONTROL STUDY

A.G. Dehankar, B.R. Maldhure, S.P. Zodpey and S.P. Papinwar

A hospital based pair matched case-control study was carried out at Government Medical College Hospital, Nagpur on 375 cases of tuberculosis (125 cases of extra pulmonary tuberculosis, 125 bacillary confirmed cases and 125 radiologically suspect cases of pulmonary tuberculosis) below 30 years of age and non tuberculous controls, matched for age, sex and

socio-economic status, to evaluate the effectiveness of BCG vaccination. Each group of cases was compared with 3 separate 'groups of controls. BCG vaccination status of both the cases and their matched controls was recorded. The study suggests a beneficial role of BCG vaccination in the prevention of tuberculosis, in this population.

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I, Ashok Sachdeva, Secretary-General of the Tuberculosis Association of India, 3, Red Cross Road, New Delhi-110 001, hereby declare that the particulars given above are true to the best of my knowledge and belief.

ASHOK SACHDEVA

On behalf of the Tuberculosis Association of India.