

## CLINICAL TUBERCULOSIS: CASE MANAGEMENT/TREATMENT/ SURVEILLANCE

### PS-100120-15 Does failure with fixed dose combination mean drug-resistant tuberculosis?

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**Background:** For the last many years, it was observed that significant numbers of tuberculosis patients treated with Fixed Dose Combination (FDCs) were not responding to treatment and were labeled as Drug Resistant Tuberculosis (DR-TB). It was hypothesized that treatment of these cases with separate drugs will improve the outcome.

**Objective:** To evaluate the response to separate drugs in patients who fail to respond to FDCs.

**Methodology:** Prospective study, from May 2006 to July 2008.

**Setting:** Ojha Institute of Chest Diseases, Aga Khan University Hospital & private practice. Included patients were suffering from tuberculosis (smear positive/tubercular Pleural effusion & TB lymph node). They did not improve after receiving at least three months of four drug FDCs in adequate WHO recommended dose. The recruited patients were prescribed regimen consisting of Ethambutol and pyrazinamide as separate drugs and Rifampicin and INH as FDCs as per body weight. Clinical response was evaluated in all while microbiological & radiological parameters were evaluated where feasible.

**Results:** Out of total 94 patients 54 (57.4%) were male. The 56 (59.6%) cases were of Pulmonary tuberculosis, 16 (17%) TB Lymph node and 22 (23.4%) tubercular pleural effusion. All patients have used adequate four drug FDCs for adequate period and were compliant with the therapy. At the end of two months: Overall clinical response was adequate in 90 (95.7%) patients, among pulmonary cases, 40/56 (71.4%) converted smear negative, among pleural effusion cases, all improved clinically & radiologically and among TB lymph node group, node regressed in all 16 patients with healing of discharging sinuses of all six patients.

**Conclusion:** Patients who fail on FDCs should be given a trial of Separate Drugs anti-tuberculosis drugs before labeling DR-TB.

### PS-100179-15 Intermittent TB treatment adherence is associated with poor long-term outcome

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**Background:** Default from tuberculosis (TB) treatment is associated with death, drug resistance and TB recurrence. Some patients do not default completely but rather take all of the prescribed TB chemotherapy in an intermittent manner, for poorly defined reasons and with unknown consequences. We studied the risk factors for intermittent adherence to TB therapy and then tested for associations with long term treatment outcome.

**Methods:** A cohort study recruited 411 pulmonary TB out-patients being treated in a government hospital in Lima, Peru from 1999 to 2003. Patients were treated with clinic-based DOTS by the national programme according to national and WHO guidelines. Intermittent adherence was defined as the 10% who took longest to complete the first 50 doses in their chemotherapy intensive phase. Risk factors and their odds ratios (OR) were identified using logistic regression. Patients were then followed up and interviewed after a mean of 5.7 years. Time-to-event analysis was used to test for effects of treatment intermittency on outcome.

**Results:** Patients took a mean of 58 days (52–118) to complete 50 treatment doses. In multiple logistic regression analysis, treatment intermittency was independently associated with HIV-TB co-infection (OR 8.8,  $P = 0.02$ ), female sex (OR 2.5,  $P = 0.04$ ), and young age (15–25 years OR 2.7,  $P = 0.03$ ). At long-term follow-up, 14 (4.5%) of patients had suffered a recurrence of TB. Log-rank analysis demonstrated that intermittent treatment adherence was associated with TB recurrence in univariate analysis ( $P = 0.04$ , see

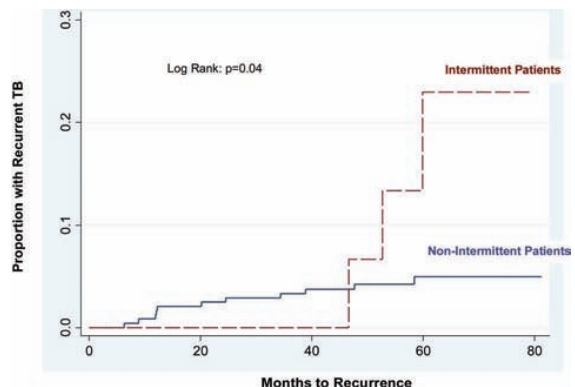


Figure Intermittent adherence is associated with TB recurrence.

Kaplan-Meier graph) and in Cox proportional hazards multivariate analysis (Hazard Ratio 4.0,  $P = 0.04$ ).

**Conclusion:** Patients with HIV co-infection, women and younger adults are significantly more likely to exhibit intermittent treatment adherence during the intensive phase. Furthermore, patients who complete therapy but with intermittent adherence during the intensive phase are at an increased risk of subsequent TB recurrence.

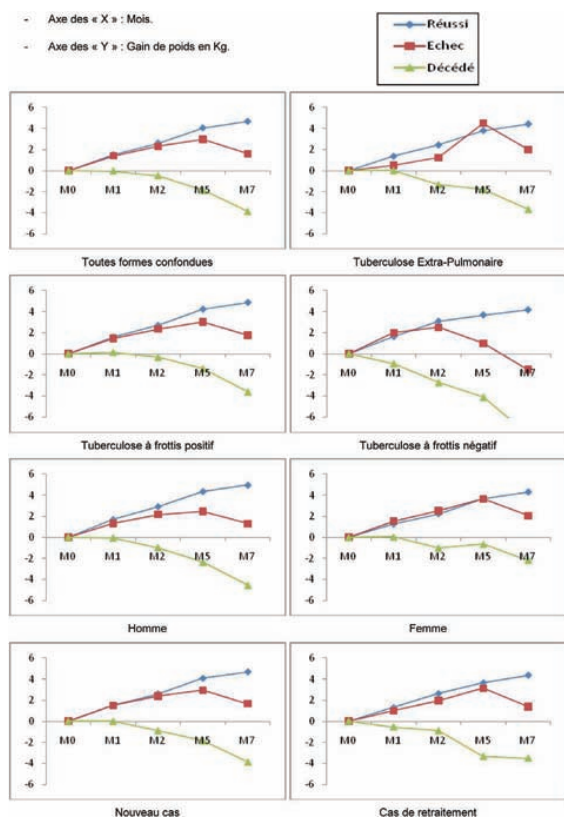
### PS-100292-15 Evolution du gain de poids des tuberculeux sous traitement et pronostic

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L'OMS encourage l'implication de la communauté dans la prise en charge des tuberculeux. Mais, les agents communautaires n'ont pas reçu de formation initiale sur la tuberculose. Alors, ils devraient disposer de moyens simples et efficaces pour assurer le suivi clinique des tuberculeux à leur charge. Cette étude vise à déterminer l'intérêt et la validité de la

courbe de gain de poids (GP) sur le pronostic des tuberculeux en cours de traitement. Une étude sur un petit échantillon allant dans ce sens a été déjà effectuée. Une analyse longitudinale du gain de poids des malades durant le traitement a été menée. Cette étude a ciblé les malades pris en charge par 3 centres de diagnostic et de traitement de la tuberculose sur une période de 5 ans (1er Janvier 2003 au 31 Décembre 2007). Au total, 3887 dossiers ont pu être exploités dont 3597 ont réussi le traitement, 68 cas d'échec et 222 cas de décès au début de l'étude. La différence entre le GP moyen des cas de réussite et celui des cas de décès est significative dès le premier mois ( $P < 0,05$ ), quelle que soit la forme clinique (Box 1). Le GP des cas de réussite présente une évolution ascendante. Au premier mois, ils ont gagné en moyenne 1,5 kg, au deuxième mois 2,6 kg, au cinquième mois 4 kg et au septième mois 4,6 kg. Alors les cas de décès, au lieu de gagner de poids, ils en perdent et présentent une courbe décroissante dès le début du traitement. Le GP des malades ayant échoué le traitement suit celui des cas de réussite jusqu'au 2ème mois. Il stagne et devient décroissante à partir du 5ème mois.

Cette étude confirme que la courbe du gain de poids constitue un outil fiable pour le suivi des tuberculeux. Elle va être facile à utiliser par les agents communautaires. Un patient ne gagnant pas de poids doit être référé au centre spécialisé en vue d'une prise en charge spécifique. Cette approche va contribuer à la réduction de la létalité et éventuellement à la réduction de l'échec du traitement.



**Figure** Evolution du gain de poids des tuberculeux selon l'issue médicale.

### PS-100505-15 Design for housing and treatment of refugees with infectious tuberculosis in Nepal

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**Background:** Beginning in 2007, International Organization for Migration (IOM) conducted medical screening of approximately 30 000 Bhutanese refugees from seven camps in southeastern Nepal. Of these, the prevalence of culture-confirmed pulmonary TB was 664 per 100 000. Resistance to at least one TB drug was identified in 13% of cases. Risk of TB transmission in this setting was high due to overcrowding and poor ventilation in the refugee shelters.

**Methods:** To reduce risk of TB transmission in this low-resource setting, a housing and treatment center was designed with natural ventilation. Indications for admission were defined as TB patients with sputum smear yielding acid fast bacilli (AFB) of 2+ or greater, sputum culture yielding MDR-TB, children <5 years old in the household, or inability to attend daily observed therapy (DOT) clinics in the camps. Indications for discharge were defined as negative AFB