Title: Predictive factors of a delayed culture conversion under tuberculosis treatment

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Body: Introduction: Patients treated for tuberculosis need classically to be isolated until smears become negative. In clinical practice, bacteriological control specimens are usually performed after 15 days of treatment but culture conversion could last longer. Methods: We conducted a retrospective study to evaluate the predictive factors for delayed culture conversion. All consecutive patients hospitalized between 2006 and 2010 in two French hospitals for active tuberculosis with positive smears were included in this study. Results: 34 patients were included, with 70% of males. One third of them were born in a foreign country (N= 11). Four patients reported a previous tuberculosis but none presented a multi-drug-resistant tuberculosis. The vast majority (97%) received classical antibiotherapy for tuberculosis. The mean duration for negative smears was 54 days and the mean duration for culture conversion was 72 days. Only 47% were discharged from hospital after 15 days of treatment. Patients having positive culture at days 30 remain positive at day 60 (culture). For 75% of patients, the culture conversion took less than 90 days. Solidary cavitary lesion was not associated with a longer delay for culture conversion contrary to extensive lesions (more than 2 lesions). Positive correlations were found between time from first symptom to diagnosis and culture conversion duration. Conclusion: Culture conversion duration was long in this population. The main predictive factors were the number of lesions and the time between symptoms and diagnosis.