Adjunctive moxibustion treatment for tuberculosis: A randomised clinical trial investigating potential efficacy and comparative safety

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Abstract

Introduction: Small cone direct moxibustion (‘moxa’) is known to have been used in Japan at the height of its tuberculosis (TB) epidemic in the pre-antibiotic era with documented reports of efficacy including one scientific animal study. Antimicrobial resistant (AMR) disease is becoming a major threat to global health with drug-resistant TB the largest component of this threat, most particularly in Africa and Asia. This study comprises the first scientific investigation into whether this simple traditional therapy might help the challenge of reducing the persistent burden of TB in middle- and low-income countries.

Methods: 180 newly diagnosed TB patients were randomly assigned to two groups, one given standard first line ‘Directly Observed Treatment, Shortcourse’ (DOTS) TB drug therapy, and the other first line DOTS along with daily self-administered moxibustion. The two groups were carefully monitored for differences in recovery rates and serological and immunological markers were compared.

Results: The moxa group responded to the drug therapy faster than the group receiving standard TB therapy as measured by their becoming sputum negative (P = 0.032 in the first month). There were accompanying improved haemoglobin levels of statistical significance (P = 0.003) with the same P value seen in a sub-group of TB patients who were also HIV positive. It was also noted that the moxa patients reported statistically significant better adherence to their drug therapy (P = 0.001).

Conclusions: The results demonstrate positive effects of moxa treatment on both reduced infectivity and drug adherence including in HIV co-infected cases. Despite previous reports of a wider range of haematological effects, these were limited to an increase in haemoglobin. There was no evidence that moxa use led to improvements in patients’ well-being, contrary to previous anecdotal evidence. The paper concludes that more investigations should be developed to provide a broader understanding of both effect and potential benefit of moxa therapy in treating human pulmonary TB disease (both with and without co-infection with HIV). It further recommends that these should include MDR-, XDR-, (multi-drug resistant and extensively-drug resistant) and programmatically-untreatable TB (including in palliative care scenarios).

Keywords: Moxibustion, Tuberculosis, HIV, MDR-TB, Immuno-modulation, Immunotherapy Randomised control trial