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ePoster Viewing

Mycology

Chronic pulmonary aspergillosis (CPA) is likely to be a common complication of pulmonary tuberculosis: initial results of a cross-sectional survey

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Objectives

In 1970, 34% of 544 British patients with residual cavities after treated pulmonary tuberculosis were found to have precipitating antibodies to *Aspergillus*. Aspergilloma was detected in 63% of those with antibodies and was often complicated by haemoptysis. Based on this data the global 5-year period prevalence of CPA is estimated at 0.8 to 1.3 million cases. There are no published surveys from current areas of high tuberculosis prevalence to confirm this prediction. The impact of HIV co-infection on the prevalence of CPA is not known. We aimed to measure the prevalence of CPA secondary to tuberculosis in Uganda.

Methods

We conducted a cross-sectional survey in Gulu, Uganda. Recruitment was open to persons aged 16 or over who completed treatment for pulmonary tuberculosis in the last 7 years. Patients with empirically treated tuberculosis were accepted only if they reported complete resolution of all symptoms at the end of tuberculosis treatment. Eligible patients were identified with the assistance of clinic staff at Gulu hospital and the District Health team. Radio announcements were used to encourage patients to participate.

All patients underwent clinical assessment, chest x-ray and had *Aspergillus*-specific IgG measured by Siemens Immunolite. Likely CPA was diagnosed in a patient who has ALL of the following; 1 – chronic symptoms (3 or more months of cough, haemoptysis, breathlessness, fatigue or chest pain), 2 – Raised levels of *Aspergillus*-specific IgG and 3 – radiological findings consistent with CPA (progressive cavities, pleural thickening or aspergilloma).

Results

We report results from the first phase of the survey, undertaken between October 2012 and February 2013. 400 patients were recruited. 200 (50%) were HIV positive. Median age was 42 years (range 16-83). 39% of patients were female. Median CD4 count in those with HIV was 415 cells/mL (range 0-1400).

3% of all patients had suspected aspergilloma on chest x-ray, with cavitation present in 24% and pleural thickening in 17%. Raised *Aspergillus*-specific IgG was found in 11.5% of patients. Chronic respiratory symptoms were reported by 59% of patients.

Overall 19 (5%) met the criteria for CPA diagnosis, other than radiological progression. A further 5 (1%) had simple aspergilloma, without chronic symptoms. HIV status had no statistically significant impact on the frequency of likely CPA.

Conclusions

The second phase of the survey is underway at present, with repeat chest x-ray on all patients to detect radiological progression. CT scan will be performed on all patients with raised antibody levels to confidently detect changes such as aspergilloma and pleural thickening. GeneXpert PCR will be performed on all patients with chronic productive cough to exclude recurrent tuberculosis. This preliminary data suggests that CPA is likely to be a common complication of pulmonary tuberculosis, which mimics the presentation of recurrent tuberculosis.