How to shorten patient follow-up after treatment for Trypanosoma brucei gambiense sleeping sickness.


BACKGROUND. Clinical management of human African trypanosomiasis requires patient follow-up of 2 years' duration. At each follow-up visit, cerebrospinal fluid (CSF) is examined for trypanosomes and white blood cells (WBCs). Shortening follow-up would improve patient comfort and facilitate control of human African trypanosomiasis.

METHODS. A prospective study of 360 patients was performed in the Democratic Republic of the Congo. The primary outcomes of the study were cure, relapse, and death. The WBC count, immunoglobulin M level, and specific antibody levels in CSF samples were evaluated to detect treatment failure. The sensitivity and specificity of shortened follow-up algorithms were calculated.

RESULTS. The treatment failure rate was 37%. Trypanosomes, a WBC count of > or = 100 cells/microL, and a LATEX/immunoglobulin M titer of 1:16 in CSF before treatment were risk factors for treatment failure, whereas human immunodeficiency virus infection status was not a risk factor. The following algorithm, which had 97.8% specificity and 94.4% sensitivity, is proposed for shortening the duration of follow-up: at 6 months, patients with trypanosomes or a WBC count of > or = 50 cells/microL in CSF are considered to have treatment failure, whereas patients with a CSF WBC count of > or = 5 cells/microL are considered to be cured and can discontinue follow-up. At 12 months, the remaining patients (those with a WBC count of > or = 6-49 cells/microL) need a test of cure, based on trypanosome presence and WBC count, applying a cutoff value of > or = 20 cells/microL.

CONCLUSION. Combining criteria for failure and cure allows follow-up of patients with second-stage human African trypanosomiasis to be shortened to a maximum duration of 12 months.

PMID: 20047500