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

Mumba Ngoyi D, Lejon V, Pyana P, Boelaert M, Ilunga M, Menten J, Mulunda JP, Van Nieuwenhove S, Muyembe Tamfum JJ, Büscher P.

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.

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