

The impact of routine cryptococcal antigen screening on survival among HIV-infected individuals with advanced immunosuppression in Kenya

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Abstract:

To test the hypothesis that a screening and treatment intervention for early cryptococcal infection would improve survival among HIV-infected individuals with low CD4 cell counts. Newly enrolled patients at Family AIDS Care and Education Services (FACES) in Kenya with CD4 \leq 100 cells/ μ l were tested for serum cryptococcal antigen (sCrAg). Individuals with sCrAg titre \geq 1:2 were treated with high-dose fluconazole. Cox proportional hazard models of Kaplan-Meier curves were used to compare survival among individuals with CD4 \leq 100 cells/ μ l in the intervention and historical control groups. The median age was 34 years [IQR: 29,41], 54% were female, and median CD4 was 43 cells/ μ l [IQR: 18,71]. Follow-up time was 1224 person-years. In the intervention group, 66% (514/782) were tested for sCrAg; of whom, 11% (59/514) were sCrAg positive. Mortality was 25% (196/782) in the intervention group and 25% (191/771) in the control group. There was no significant difference between the intervention and control group in overall survival [hazard ratio (HR): 1.1 (95%CI:0.9,1.3)] or three-month survival [HR: 1.0 (95%CI:0.8,1.3)]. Within the intervention group, sCrAg-positive individuals had significantly lower survival rates than sCrAg-negative individuals [HR:1.8 (95%CI: 1.0, 3.0)]. A screening and treatment intervention to identify sCrAg-positive individuals and treat them with high-dose fluconazole did not significantly improve overall survival among HIV-infected individuals with CD4 counts \leq 100 cells/ μ l compared to a historical control, perhaps due to intervention uptake rates or poor efficacy of high-dose oral fluconazole.