

Abstract

Bancroftian filariasis infection, disease and specific antibody response patterns in a high and a low endemicity community in East Africa were analyzed and compared to assess the relationship between these parameters and community transmission intensity. Overall prevalences of microfilaremia and circulating filarial antigenemia were 24.9% and 52.2% in the high and 2.7% and 16.5% in the low endemicity community, respectively. A positive history of acute attacks of adenolymphangitis was given by 12.2% and 7.1% of the populations, 4.0% and 0.9% of the adult (≥ 20 years old) individuals presented with limb lymphedema, and 25.3% and 5.3% of the adult males had hydrocele, in the high and the low endemicity community, respectively. Both infection and disease appeared earlier and reached much higher levels in the high than in the low endemicity community. The observed overall and age-specific infection and disease patterns in the two communities were in agreement with the view that these are primarily shaped by transmission intensity. No statistically significant relationships between infection status of fathers and mothers and that of their children were observed in any of the communities for either microfilaremia or for circulating filarial antigenemia. The overall levels (prevalence and geometric mean intensity) of filarial-specific IgG1, IgG2, IgG4, and IgE were significantly higher in the high endemicity community than in the low endemicity community. Surprisingly, the opposite pattern was found for IgG3. Community transmission intensity thus appears to be an important determinant of observed inter-community variation in infection, disease, and host response patterns in Bancroftian filariasis.