

RECENT TRENDS IN TREATMENT USE AND VIROLOGICAL SUPPRESSION IN A LONDON HIV CLINIC POPULATION

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BACKGROUND

Introduction of HAART has transformed HIV treatment, resulting in marked declines in mortality and morbidity among HIV infected populations since the mid 1990s.

However, the extent to which these improvements can be maintained in the long-term is uncertain, as there is increasing concern regarding the feasibility of prolonged HAART use. Little is known about recent trends in the virological and immunological status of HIV infected individuals under care.

OBJECTIVE

To examine trends in treatment use, virological suppression, and immunological status, among the HIV clinic population at the Royal Free Hospital, London, from 1999 to 2001, a period in which HAART has been the standard of care.

METHODS

Viral load and CD4 count were ascertained for patients seen in the clinic during five six-month periods from January 1999 to June 2001*. The value nearest the mid-point of the period was used for each individual. Treatment use was ascertained for patients seen during each six-month period or under follow-up at the clinic at the mid-point of the period. HAART use was defined as use of ≥ 3 antiretroviral drugs. The rate of AIDS events was calculated for each six-month period, using the total number of new events (allowing >1 event per individual) and the total person-years of follow-up in each period.

Statistical tests for linear trend were performed using logistic and Poisson generalized estimating equations in order to account for within-subject correlation.

* No data are currently available for patients whose first clinic visit was during the final period (January-June 2001). Therefore first visit patients were excluded from each six-month period for all analyses, in order to avoid bias in evaluation of trends. This had little effect on overall prevalence estimates.

RESULTS

From January 1999 to June 2001, 1497 patients were seen in the clinic. The numbers seen or under follow-up during each six-month period ranged from 1104 to 1248. There were small changes in the demographic structure of the population over the period: an increase in the percentage of black African patients (from 18% to 21%) and those in the heterosexual risk group (from 27% to 30%), and a fall in the percentage of intravenous drug users (6% to 4%).

FIGURE 1: TREND IN DISTRIBUTION OF NUMBER OF DRUGS TAKEN

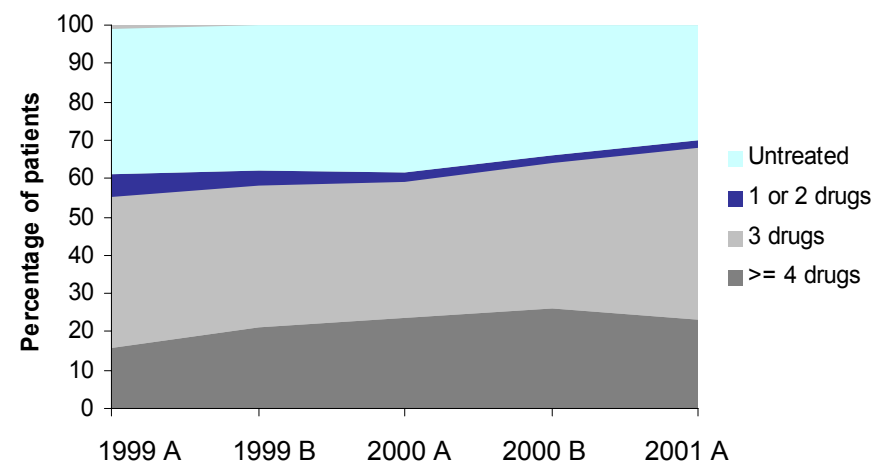
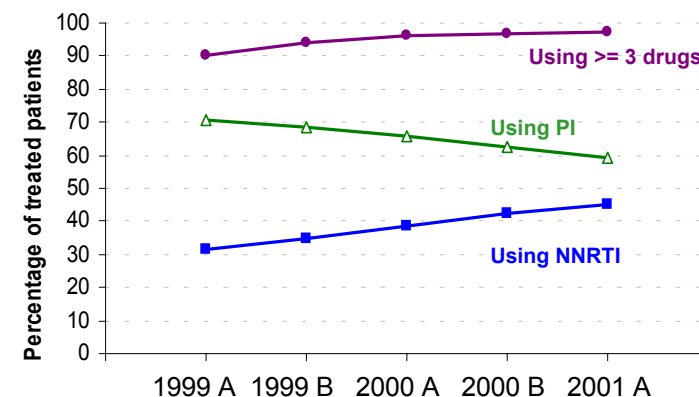
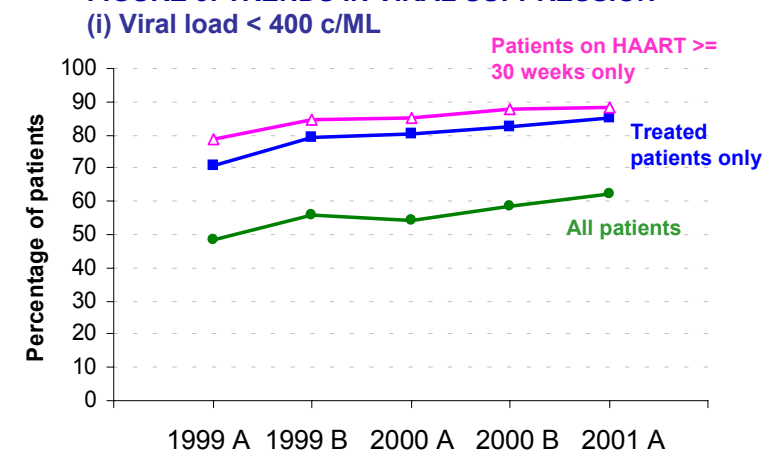


FIGURE 2: TRENDS IN USE OF PROTEASE INHIBITOR, NNRTI, ≥ 3 DRUGS: TREATED PATIENTS ONLY

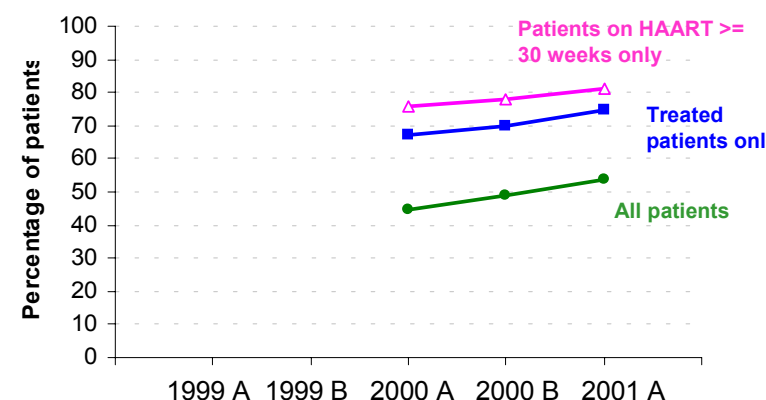


The percentage of patients taking ART rose from 61% to 70% over the period (Figure 1). NNRTIs were increasingly used instead of PIs (Figure 2). By 2001, less than 4% of treated patients remained on mono or dual therapy. The proportion of all patients who had used all three ART drug classes increased from 15% to 24%. Among HAART treated patients, median time on HAART increased from 14 to 27 months.

FIGURE 3: TRENDS IN VIRAL SUPPRESSION



(ii) Viral load < 50 c/mL



The proportion of patients with VL <400 c/mL increased from 70.8% to 85.3% among all treated patients, and from 78.9% to 88.1% for patients on HAART for at least 30 weeks ($p < 0.001$ for trend; Figure 3 i). In the last three periods, VL was < 50 c/mL in 67.2%, 69.9% and 75.0% of all treated patients, and in 75.6%, 78.1% and 81.0% of patients on HAART for at least 30 weeks ($p = 0.024$ for trend; Figure 3 ii).

FIGURE 4: TRENDS IN MEDIAN (IQR) CD4 COUNT

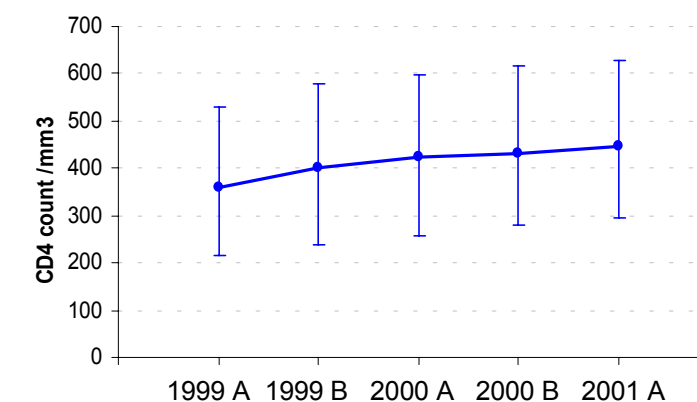
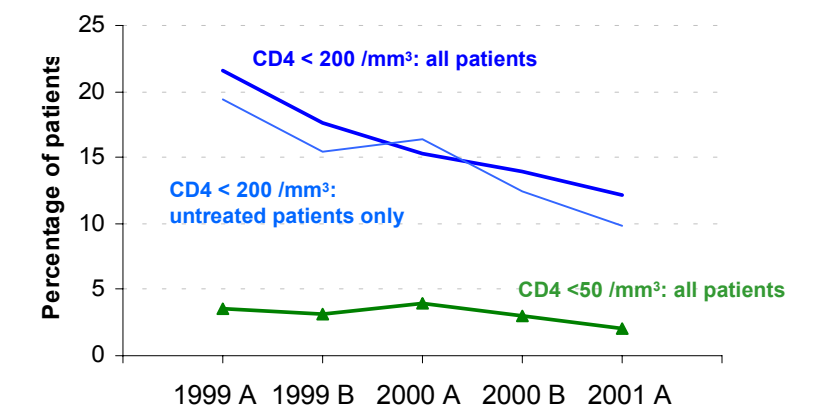


FIGURE 5: TRENDS IN LOW CD4



Median CD4 count rose throughout the period, (Figure 4). The proportion of patients with CD4 <200 /mm³ fell from 21.6% to 12.2% ($p < 0.001$ for trend) and the proportion with CD4 < 50 /mm³ fell from 3.6% to 2.1% ($p = 0.017$; Figure 5). The prevalence of low CD4 fell both among treated and untreated patients. The rates of AIDS events and death were low throughout the period, with no significant trend over time (Table 1).

TABLE 1: TRENDS IN RATE OF NEW AIDS EVENTS AND DEATH

	P-Y ¹	Rate AIDS ² (no. of events)	Rate death ² (no. of deaths)
Jan-June 99	513	25 (13)	10 (5)
July-Dec 99	549	46 (25)	22 (12)
Jan-June 00	562	53 (30)	16 (9)
July-Dec 00	560	23 (13)	13 (7)
Jan-June 01	298	20 (6)	10 (3)

¹Person-years; ²Per 1000 P-Y

CONCLUSIONS

The virological and immunological profile of HIV infected patients under care has continued to improve over the last three years. Increases in duration of HAART use and likelihood of exposure to all antiretroviral drug classes have not yet had an adverse impact on response to therapy at a population level.