

A PEER-REVIEWED ARTICLE

Should longterm stable patients have biannual monitoring?

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Monitoring of patients on antiretroviral therapy (ARV) at specified intervals is important to assess medication tolerance, toxicity, and efficacy. In addition, patients on ARVs may have some degree of immune compromise putting them at risk for various adverse conditions. This need for close monitoring is counterbalanced by the fact that, as drugs have improved, patients have achieved a better health status for prolonged periods of time.

Studies evaluating resource-poor settings suggest clinics select which laboratory tests to perform based on the cost effectiveness of each test.¹ Some experts have recommended the same strategy in the United States in this era of restricted financial support.² The annual costs of care per patient have ranged from \$20,300 in 1996 to \$19,912 in 2006.³ CD4 cell counts are associated inversely with the cost of care. The cost of care tends to be higher for those with more immune compromise, as revealed by a lower CD4 cell count.

At least one group has evaluated the clinical impact of extending the duration between laboratory monitoring to every six months. Sayana *et al.* conducted a retrospective cohort study in an outpatient clinic based in Los Angeles, California, to evaluate differences in HIV-1 RNA levels and CD4 cell counts of patients seen every three months compared to those seen every six months.² They included 846 patients in a 12 month period (Sept 1, 2008 to Sept. 1, 2009). They found no differences in terms of gender, race/ethnicity, CD4 cell counts, and HIV-RNA levels between the two groups at baseline and there were no differences in HIV RNA levels between the two groups at followup. However, patients having quarterly screening did have a slightly higher rise in their mean CD4 cell count at followup compared to those having semiannual screening (29 cells versus 6 cells, $p=0.03$).

Given the focus on healthcare costs, the most recent version of the Department of Health and Human Services guidelines⁴ recommends the interval for HIV RNA monitoring be extended to every six months in adherent patients with suppressed viral loads and stable clinical and immunologic status for at least two to three years. They state that CD4 cell counts may be monitored as infrequently as every 6 to 12 months.

Decreasing the frequency of monitoring could significantly decrease outpatient costs. The most recent review done in 2006 based calculations for outpatient visits on the Medicare National Physician Fee Schedule for 2006. Unit costs ranged between \$91.72 to \$107.97 per visit based on the geographical location. The costs for CD4 cell count testing and HIV RNA level testing were \$38 and \$90, respectively. The costs for complete blood counts (CBCs) and comprehensive chemistries were not given in the review, but at

the Interim LSU Public Hospital these costs are \$11.14 and \$15.14, respectively.

Using these numbers, the annual cost for a stable patient meeting criteria for less frequent monitoring would be cut by approximately \$292.28. This is based on the assumption that stable patients could cut at least one clinician visit, HIV RNA level check, routine CBC and chemistry profiles, and possibly two CD4 cell count levels from their historical monitoring schedule. This would be a total savings of \$146,140.00 for every 500 stable patients. In addition, decreasing the need for monitoring would also decrease the time and financial costs for stable patients. Future prospective studies are warranted to better determine the risk versus cost benefit for selected patients with HIV who are considered to be stable. ❖

REFERENCES

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