BACKGROUND: The relationship between oral lesions arising from HIV infection and CD4/CD8 cell ratios is of relevance in clinical assessment of immune suppression. OBJECTIVE: To correlate the prevalence of oral manifestations arising from HIV infection and the levels of CD4/CD8 cell ratios. DESIGN: A cross-sectional study. SETTING: Kenyatta National Hospital, Nairobi, Kenya. SUBJECTS: Two hundred and seven HIV-infected patients in medical wards were recruited in the study. RESULTS: Seventy eight (37.7%) were male and 129 (62.3%) female, with an age range of 18-73 years (mean=34.81 years). Oral manifestations encountered with highest prevalence in the oral cavity included: hyperplastic candidosis (labial mucosa) 15%, erythematous candidosis (gingival) 5%, angular cheilitis 32.4%, herpes simplex (corner of the mouth) 0.5%, persistent oral ulceration (labial mucosa) 0.5%, Parotid enlargement 2% and Kaposis sarcoma (hard/soft palate) 2.9%. CONCLUSION: The prevalence of oral manifestations was higher with low CD4 count <200 cell/mm3 and mean CD4/CD8<0.39(95%CI 0.32-0.48).