

## INTRODUCTION

Dental implants are a favorable treatment option for restoring edentulous patients when compared to traditional removable prosthetic options. The success of dental implants is based on osteointegration which can be compromised by a person's immunocompromised status. Human immunodeficiency virus (HIV) is a major public health problem that can make affected individuals susceptible to opportunistic infections and in turn render them at increased risk for complication following oral surgery procedures. However, due to introduction of highly active antiretroviral therapy (HAART), immunological resistance and life expectancy of individuals with HIV has improved. As a result, more patients with HIV are likely to seek dental implants for oral rehabilitation.

## CLINICAL QUESTION

### Does HIV affect the survival rate of dental implants?

Population (P): Patients with HIV

Intervention (I): Dental implants

Comparison (C): HIV-negative patients

Outcome (O): Survival of dental implants

## SEARCH STRATEGY

1. PubMed search keywords: "HIV" and "Dental implants"
2. Filtered publication dates for the last 10 years
3. Further filtered for Systematic Reviews
4. Read 6 abstract and narrowed down to 3 articles based on relevance to the topic

## RESULTS

- The mean implant survival rate for patients with HIV was 95% with a 95% CI (Sivakumar et al).
- No difference in marginal bone loss between HIV-positive and HIV-negative patients, with a mean loss of < 0.55 mm in both groups (Lemos et al).
- One study found no complications in patients evaluated. Two studies reported peri-implantitis as the most prevalent complication in patient with HIV (Lemos et al).
- One study reported a mean CD4+ T-cell count <200 cells/mm<sup>3</sup> showed the highest rate of implant failure among the studies included (9.1%) (Lemos et al.)
- High implant failure rate in patients who received protease inhibitors with a 4.4% risk of failure at 1 year and 8.9% at 3 and 5 years than patients who followed another HAART regimen (Sivakumar et al).

## RECOMMENDATION

### Providers should consider the following parameters when treatment planning implants in HIV positive patients:

- CD4 T-cell count: > 200 cells/mm<sup>3</sup>
- Viral load lower than 50 copies/mL
- HAART medication that does not include Protease Inhibitor
- Prophylactic antibiotic use recommended because the inflammatory process at the site of surgery causes temporary reduction in CD4+ T-cell count
- Maintenance visits to prevent the occurrence of peri-implantitis

## CONCLUSION

Dental implants are a viable option for individuals living with HIV. There is no significant difference in the survival rates of dental implants between patients who are positive or negative for HIV. When treatment planning an implant for a patient who is positive for HIV, a medical consult should be ordered. It is important to note their CD4 T Cell count, their Viral load and the HAART regimen that they are on. However, the results of these studies should be interpreted with caution as the follow up periods were short, and the studies did not consider confounding factors. More controlled studies of implant success in HIV patients with longer follow-up periods should be conducted.

## REFERENCES

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