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Matched-Pair Cohort Study of Spinal Surgery in HIV-Infected Patients: Minimum One-Year Follow-Up

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Introduction

With the overall advancement in the management of patients with human immunodeficiency virus (HIV) infection/AIDS, HIV infection is now considered as a chronic disease and the longevity of these patients has significantly improved for the last two decades. As such, an increasing number of patients with HIV-infection are now potential candidates for elective surgical procedures such as spine surgery. Thus, we aimed to characterize clinical outcomes of spine surgery in patients with HIV infection in order to facilitate judicious patient selection and comprehensive informed consent, which are of paramount importance in surgical decision-making processes for this high-risk cohort.

Methods

Single-center, retrospective data review from 2010 to 2016 yielded a total of 4968 patients of spine surgery. Amongst those, 45 patients had HIV infection. Patients from the database were propensity-matched for age, sex, diagnoses, procedures, and co-morbidities other than HIV at a 1:2 ratio, which yielded 90 matched-patients. Clinical outcomes were compared and statistically analyzed. All reported p values are 2-sided and p values <.05 were regarded as statistically significant.

Results

No statistically significant differences were noted for baseline characteristics. The HIV-infected patient group had higher rates of 30-day readmission (11.1% versus 2.2%, p=0.04), one-year surgical site infectious complication (13.3% versus 3.3%, p=0.06), and one-year pseudoarthrosis (17.8% versus 4.4%, p = 0.02) as well as longer hospital stay (6.8 days versus 4.6 days, p<0.01) when compared with the control matched-cohort. The cutoff value of CD4 absolute count < 200/uL at the most recent preoperative encounter allowed us to stratify them into the two groups with regards to 90-day medical complication rates with statistical significance (44.4% (CD4 < 200) versus 11.4% (CD4 >200), p=0.04).

Learning Objectives

By the conclusion of this session, participants should be able to: Describe the importance of HIV infection in terms of surgical indication and preoperative assessment.

Conclusions

Spinal surgery in HIV-infected patients was associated with worse short- and long-term clinical outcomes, including higher rates of 30-day readmission, one-year infectious complication rate, and one-year pseudoarthrosis rate.