

**THE FREQUENCY OF HIV IN PATIENTS WITH NEWLY DIAGNOSED
BELL'S PALSY AT A TERTIARY CENTRE:**

ABSTRACT

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ABSTRACT

Background: Bell's palsy is the most common disease affecting the facial nerve and presents with unilateral lower motor neuron (LMN) facial weakness. An immunologically-mediated pathophysiological process is suspected, with a viral pathogen being one of the possible precipitating factors. The exact cause is however still unknown, with numerous associated diseases that have been described, one of which is HIV, with facial palsy being the most common cranial neuropathy in HIV.

Aims: To describe the sociodemographic characteristics and frequency of HIV in patients with newly diagnosed Bell's palsy. Furthermore, to determine the mean CD4 and viral load of the HIV positive subgroup.

Methods: This retrospective-prospective observational and descriptive study evaluated 58 adult patients (18 years and older) that presented with atraumatic LMN facial weakness (Bell's palsy) between January 2019 and November 2021 at Charlotte Maxeke Johannesburg Academic Hospital (CMJAH), Chris Hani Baragwanath Academic Hospital (CHBAH) and Helen Joseph Hospital (HJH). Data was obtained from patients' files and prospective patient interviews and annotated on data capturing sheets. It included demographic information, date of diagnosis of Bell's and side of the face involved, as well as the HIV status and the CD4/Viral Load (VL) for all HIV positive patients. Furthermore, the HbA1c, TPHA/RPR and ANA tests were also obtained. Descriptive statistics were used to determine the frequency of HIV. For continuous variables (CD4/VL), the mean and standard deviation were determined for normally distributed data, whereas the median and interquartile range were determined for data not normally distributed. This was subsequently presented in a tabulated format.

Results: Of the 58 patients included, the mean age was 42.2 years with an equal number of males and females. More than half (55.2%) of the patients had right sided weakness ($p = 0.025$), with only one patient that had bifacial weakness. The HIV frequency was 34.5% (20/58) of which 11/20 (55%) were known HIV positive prior to Bell's diagnosis, and 9/20 (45%) were newly diagnosed HIV at the time of Bell's diagnosis. Known HIV positive patients were more likely to present with right sided weakness (10/11; 90.9%). The mean CD4 count at Bell's diagnosis did not show a statistically significant difference ($p = 0.553$) between the known HIV and newly diagnosed HIV group, namely 335 cells/ μL for the former, and 243 cells/ μL for the latter group. Among the HIV negative and newly diagnosed HIV positive patients, diabetes mellitus was the most common other associated co-morbidity.

Conclusions: In this cohort of patients in whom LMN facial weakness (Bell's palsy) was the presentation in all the patients, an HIV frequency of 34.5% was found. It can be the presenting problem in HIV or occur in the later stages of the disease. Right sided weakness was significantly more common in patients previously diagnosed with HIV and the mean CD4 count was > 200 cells/ μL at presentation with Bell's in both HIV positive subgroups. Diabetes mellitus is a co-morbidity commonly associated with Bell's in HIV negative patients.