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BELLING THE CAT: UNILATERAL RECURRENT BELL'S PALSY AS AN INITIAL PRESENTATION OF HIV, A CASE REPORT

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SUMMARY

Background: **Facial nerve paralysis occurs more frequently in individuals with HIV than in the general population. The recurrence pattern of Bell's palsy plays a key role in its classification. Although facial palsy is a known neurological manifestation of HIV, recurrent unilateral Bell's palsy as an initial presentation is exceedingly rare.**

Case Report**: We describe the case of a 35-year-old patient who presented with recurrent unilateral Bell's palsy, ultimately leading to a diagnosis of HIV. The absence of other risk factors and the recurrence pattern prompted further investigation, culminating in serological confirmation.**

Conclusion**: This case underscores the importance of considering HIV in the differential diagnosis of Bell's palsy, particularly in recurrent cases. Clinicians should be vigilant in screening for HIV when evaluating facial nerve paralysis. Future research should assess HIV as a potential risk factor for recurrence, and the role of imaging should be further clarified, given that Bell's palsy remains a diagnosis of exclusion.**

INTRODUCTION

Bell's palsy is the most common form of peripheral facial nerve palsy, typically presenting with sudden-onset, unilateral facial muscle weakness or paralysis [1]. Although its precise etiology remains unclear, it is widely believed that inflammation and subsequent compression of the facial nerve within the narrow meatal portion of the facial canal play a central role in its pathogenesis [2]. While the overall incidence of recurrent Bell's palsy ranges from 4% to 7%, up to 15% of individuals may experience recurrence after a first episode, with risk factors including diabetes mellitus and hypertension [3].

The recurrence pattern of Bell's palsy forms the basis for its classification into five categories: unilateral non-recurrent, unilateral recurrent, simultaneous bilateral, alternating bilateral, and recurrent bilateral [4]. Among these, unilateral recurrent Bell's

palsy is less common, particularly when occurring as the initial manifestation of an underlying systemic condition.

Facial nerve paralysis is significantly more prevalent in individuals living with HIV, with estimates suggesting it is up to 100 times more frequent than in the general population—especially during the acute seroconversion phase [5]. Despite this strong association, recurrent unilateral Bell's palsy as the first clinical indicator of HIV infection remains rare.

We present the case of a 35-year-old woman referred from the ophthalmology clinic, whose initial HIV diagnosis was made following two episodes of unilateral Bell's palsy occurring within a three-month interval.

Case Report

GN is a 35-year-old single mother of three who was referred to our clinic from the ophthalmology department for evaluation of right-sided facial nerve palsy, with a working differential of a cerebrovascular event. She reported a one-week history of progressive facial weakness on the right side, preceded by a dull ache and discomfort behind the right ear. There were no associated symptoms such as fever, vertigo, hyperacusis, or altered taste perception. Notably, she recalled a similar episode three months prior, which had resolved completely following treatment, although she could not remember the specific medications used.

She also complained of a gritty sensation in the right eye with tearing, but reported minimal drooling and no slurred speech. A review of systems was unremarkable. She had no known chronic illnesses, denied alcohol or cigarette use, and reported no use of recreational drugs. She worked as a shopkeeper and had been sexually active with one heterosexual partner in the past year. Her last HIV test was three years ago during antenatal care for her youngest child; she was unaware of her partner's HIV status.

On general examination, she appeared well, and vital signs were within normal limits. Facial inspection revealed right-sided asymmetry, with flattening of the nasolabial fold and deviation of the mouth toward the left. There was incomplete closure of the right eye and inability to wrinkle the right forehead, consistent with lower motor neuron paralysis of the right facial nerve. Examination of the ears, nose, and throat was normal, and the remainder of her systemic and neurological examination—including other cranial nerves—was unremarkable.

Initial investigations, including complete blood count, fasting blood glucose, renal function tests, and rheumatoid factor, were normal. A non-contrast CT scan of the head, done before referral, was reported as normal. Due to financial constraints, further imaging—such as high-resolution CT of the temporal bone or brain MRI—was not performed.

She consented to HIV testing, which returned positive. Following this, she was started on oral acyclovir 800 mg three times daily for seven days and oral prednisolone 40 mg once daily, tapered to 20 mg daily after one week for an additional week. Supportive measures included facial physiotherapy and eye care. She was subsequently referred for

enrollment into HIV care at the Comprehensive Care Clinic (CCC).

Discussion

Bell's palsy commonly occurs in individuals already diagnosed with HIV, typically presenting as a first episode of facial nerve palsy. Bilateral involvement has also been documented, albeit less frequently [6]. This case is unique in that the patient presented with recurrent unilateral Bell's palsy as the initial manifestation of HIV infection—a rarely reported phenomenon. This underscores a commonly missed opportunity for HIV screening and diagnosis in patients presenting with idiopathic facial nerve paralysis, particularly when the condition recurs.

In the absence of classical symptoms of acute retroviral syndrome—such as headache, myalgia, lymphadenopathy, or rash—it remains uncertain whether this episode reflected acute HIV seroconversion or an already established infection. Nonetheless, Bell's palsy during early HIV infection may serve as a harbinger of more serious neurological complications, including aseptic meningitis, encephalopathy, peripheral neuropathy, myelopathy, and cranial neuritis [5].

Bell's palsy has long been associated with viral etiologies. The most widely accepted pathophysiological mechanism involves reactivation of latent herpes simplex virus, leading to inflammation, edema, and subsequent compression of the facial nerve within the fallopian canal [7]. Similarly, HIV is a neurotropic virus capable of invading the facial nerve or geniculate ganglion, causing localized swelling or demyelination during the immune response to seroconversion. In advanced stages of HIV, immunosuppression increases susceptibility to opportunistic infections and malignancies—such as cytomegalovirus, toxoplasmosis, and lymphoma—that may also result in cranial neuropathies, including Bell's palsy [8].

Recurrent Bell's palsy is more commonly linked to comorbidities like diabetes mellitus, hypertension, autoimmune conditions, and hypothyroidism. While Bell's palsy generally has a favorable prognosis, recurrent unilateral cases, especially in younger adults, may have a more protracted course. About two-thirds of patients with recurrence achieve complete recovery, while others experience persistent deficits extending beyond six months [1]. Recurrence has been observed more frequently in women and individuals aged 26–50, potentially due to stronger immune responses to viral triggers or the modulatory effects of hormonal fluctuations on inflammation [9].

Given this patient's demographic profile and recurrent presentation, further evaluation for autoimmune disorders and thyroid dysfunction is warranted. Importantly, her case raises the need for more studies to investigate whether HIV infection itself is a risk factor for Bell's palsy recurrence, independent of opportunistic infections or immunosuppression.

Although the patient presented with a normal non-contrast CT scan of the brain, current guidelines do not recommend

routine imaging in the initial evaluation of acute-onset facial paralysis when the clinical picture is consistent with Bell's palsy. Imaging becomes pertinent when presentation is atypical, progressive, or when there is concern for malignancy or central pathology. In such cases, high-resolution CT of the temporal bone and parotid bed with contrast is the first step, followed by gadolinium-enhanced MRI to evaluate deeper structures such as the internal auditory canal and cerebellopontine angle. However, imaging also carries risks, including contrast-induced reactions, radiation exposure, potential for misinterpretation, and increased cost of care [10]. In resource-limited settings, clinical acumen remains crucial, and targeted investigations must be prioritized. This case not only highlights an unusual presentation of HIV but also emphasizes the importance of integrating HIV screening into the diagnostic workup of Bell's palsy.

Conclusion

Given that Bell's palsy is up to 100 times more prevalent among individuals living with HIV, clinicians must seize every opportunity to screen for HIV in patients presenting with facial nerve paralysis—especially when the presentation is recurrent or atypical. This case illustrates the need to consider HIV as a potential risk factor in future research exploring the recurrence of Bell's palsy. It also emphasizes the importance of demographic factors, such as younger age and female sex, which may predispose individuals to recurrence. Furthermore, the role of imaging in the diagnostic workup of facial nerve palsy should be clearly defined, as Bell's palsy remains a diagnosis of exclusion, and unnecessary imaging may contribute to increased costs without improving outcomes.

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