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Ramsay Hunt Syndrome Revealing HIV Conditions

Ghislaine Neuilly Ngniee Tafo[1*], Fatogoma Issa Kone[2], Boubacar Maiga[1], Mohamed Keita[2]

[1]Reference Health Center I in Bamako, Bamako, Mali
[2]University Hospital of Gabriel Touré of Bamako (CHU), Bamako, Mali
Email: *tafoneuilly@yahoo.fr

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Abstract

Objective: To discuss the diagnostic, therapeutic, and evolutionary aspects of a case of herpes zoster oticus associated with facial palsy in HIV conditions. **Case Study:** We report the case of a 32-year-old married female beautician patient admitted with severe right otalgia associated with a fever that had been evolving for three days. The addition of homolateral otorrhea and headache was noted. The initial examination on admission noted a vesicular rash of the pinna and the external third of the right external auditory canal with a normal tympanic membrane. The evolution was marked 48 hours later by the appearance of a right facial palsy grade V. The CT scan of the rock showed a mastoid and maxillary sinus hypodensity. The paraclinical exploration found a positive retroviral serology to HIV 1 and 2. The diagnosis retained was a Ramsay Hunt syndrome on HIV condition associated with ipsilateral maxillary sinusitis and mastoiditis. The treatment administered was a combination of amoxicillin/clavulanic acid injection of 3 g per day + oral aciclovir 200 mg, acetaminophen 1 g injectable every 6 h, betamethasone 4mg per day, vitamin B complex, artificial tear. Therapeutic inclusion in the HIV/AIDS national program was performed. The evolution was marked by the total regression of the facial palsy after six months of treatment. **Conclusion:** Otogenic diseases in HIV remain a problem in our context where the circumstances of discovery are most often fortuitous, hence the need to search for the serological status in front of any suspicion of viral infection in adults. The status may constitute a triggering factor or a factor of the severity of the pathology or of the symptoms such as facial palsy or deafness in our case. Early and adapted management has been shown to improve the prognosis.

Keywords

RAMSAY HUNT Syndrome, Zona, Ear, Facial Paralysis, HIV

1. Introduction

Ramsey Hunt syndrome, also known as Herpes Zoster Oticus, is a unilateral peripheral facial palsy characterized by hearing loss, pain, and blisters in the ear or mouth. Peripheral facial palsy is characterized by labial deviation, palpebral inocclusion, and erasure of the nasolabial folds. It was described by Ramsey Hunt, an American neurologist and army officer in World War I in 1907 [1]. It is a rare and severe complication of varicella-zoster virus reactivation in the geniculate ganglion of the facial nerve [1] [2] [3] and represents less than 1% of the complications of herpes zoster [1] [4] and about 0.3% to 18% of the causes of atraumatic peripheral facial palsy [5], while concomitant immunosuppression to hiv1 and hiv2 is observed in less than 3% of the population. A rather noisy etiological entity, the incidence and clinical severity of otic zoster increase when host immunity is compromised. In fact, infection with Varicella-Zoster Virus (VZV), a member of the herpes virus family, is relatively common. Typically, VZV causes chickenpox in children and then reactivates to cause the zone in adults. After the signs and symptoms of chickenpox resolve, the virus enters a state of latent infection inside nerve cells. During this latency phase, the infection is usually suppressed by the immune system. However, as the immune system weakens with age, the virus may reactivate and cause shingles. Unawekened HIV infection allows the immune system, therefore, it may not be recognized by certain microbes, even if it recognizes them, it may fail to mount an effective immune response against the microbes. In the days before the introduction of potent combination anti-HIV drugs (ART), zone rates were prevalent among HIV-positive people. A French study revealed that HIV-positive people aged 15 to 44 were most at the risk of presenting this disease with a viral load rate below 500 copies/ml in 29% of cases [6] [7]. In general, complete and unilateral recovery occurs in only about 20% of untreated patients. The prognosis is better if treatment is started within 72 hours [8] posing a problem of early diagnosis and management.

We report a case of peripheral facial palsy associated with Herpes Zoster Oticus who was unaware of his HIV 1 and 2 immunosuppressive backgrounds with almost complete remission after a few months of treatment.

2. Case Study

We report the case of a 32 years old female patient, married, beautician, admitted for intense right otalgia, insomniac for three days, associated with hyperthermia. The addition of homolateral otorrhea and front lateral headache were noted.

The initial examination on admission noted a vesicular rash of the pinna and the external third of the right auditory external canal with a normal tympanic membrane (**Figure 1**). The evolution was marked 48 hours later by the appearance of a right facial palsy grade V according to the classification of HOUSE and BRACKMANN [7] (**Figure 2**), hearing loss, vertigo and vomiting. The general

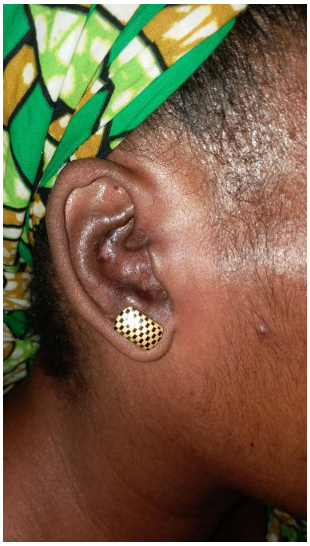

Figure 1. Rash vesicular, 1 month post treatment.

Figure 2. 1 month post treatment.

condition was rated at two according to the WHO index. The paraclinical exploration showed a partial filling of the mastoid cells and the right maxillary sinus on the CT scan of the rock and found a positive retroviral serology to HIV 1 and 2 concomitantly, the partner being seronegative. The diagnosis retained was a Ramsay Hunt syndrome in an HIV/AIDS context associated with ipsilateral maxillary sinusitis and mastoiditis. The pre-treatment workup revealed a viral load of 400/mm^3 and a viral load of 7 log copies/ml. The treatment administered was a combination of amoxicillin/clavulanic acid injection: 3 g, three times per day for ten days plus oral aciclovir 200 mg: four times daily for ten days, acetomiphen 1 g injectable every six hours for two days, oral betamethasone: 4mg per day for seven days then 2 mg per day for seven days too, oral vitamin B complex: one tablet two times per day for one month, artificial tear: two times per day for four months until the regression of the facial palsy to grade II. Therapeutic inclusion in the program against HIV/AIDS was carried out, the patient was then

put under tritherapy based on Efavirenz, Lamivudine and Tenofovir fumarate: 1 tablet per day followed by a rehabilitation by massage and making faces and mimics. The evolution was marked by a partial regression of the facial palsy after 4 months of treatment, from grade V to grade II and then almost total after 6 months (**Figure 3**), the complete disappearance of the hypodensity in the mastoid cells and the maxillary sinus and the restoration of hearing.

3. Discussion

HIV, human immunodeficiency virus is a virus that targets the immune system and weakens the body's defenses against many infections that people with healthy immune systems can fight. As the virus alters and suppresses the function of immune cells, immunodeficiency progresses in infected individuals. HIV remains a major public health problem of global significance, resulting in more than 36.3 million deaths [27.2 - 47.8 million] to date. There is no cure for HIV infection. However, with improved access to effective prevention, diagnosis, treatment, and care, including for opportunistic infections, HIV infection has become a chronic condition that can be managed with the possibility of a long and healthy life. Two-thirds (25.4 million) of people living with HIV live in the WHO African Region.

In June 2021, strong recommendations were adopted by 187 countries, including our own, among the quick start of antiretroviral treatment for all people living with HIV, including offering it on the day of diagnosis to those who are ready to start.

Despite the fact that there is now a national HIV/AIDS program in our country that facilitates access to screening, HIV can still be discovered fortuitously, during opportunistic infections such as zoster [9].

HIV-infected patients are 20 times more likely to develop herpes zoster than HIV-negative patients of the same age, and approximately 30% of HIV-positive individuals develop herpes zoster at least once within 12 years of HIV diagnosis

Figure 3. 4 months post treatment.

[2]. Otic zoster is a rare complication of zoster, less than 1% [4] [10] [11]. It constitutes on average 12% of the causes of peripheral facial palsy [5], with incidence varying from 0.3% to 18% in the literature [1] [2]. Although the predisposition of HIV immunocompromised patients to develop herpes zoster is known, in the literature the reported cases of Ramsay Hunt syndrome or otic zoster associated with HIV are rather rare [12].

Today, there are several tools available to fight this epidemic, available in the world and notably in Mali: the Tasp strategy—Treatment as prevention through tritherapies, which not only guarantees patients the same life expectancy as a non-infected person, but also prevents them from transmitting HIV to their partners. Under treatment, the virus is undetectable in the blood, making the therapies a prevention tool in their own right. The last few years have also seen the development of Prep (or pre-exposure prophylaxis) TRIVUDA, a treatment taken as a preventive measure intended for people exposed to a high risk of becoming infected, proposed in our case to the patient's husband who was HIV-negative, in addition to the possibility of using condoms. People who are infected are infected without knowing it [13] [14]. The research is still going on about the reservoir cells and the vaccine.

In our case, this duo was associated with ipsilateral mastoiditis and maxillary sinusitis knowing that peripheral facial palsy related to mastoiditis constitutes 1.3% of peripheral facial palsies. Peripheral facial palsy was the circumstance of discovery of HIV; our patient tested positive for HIV 1 and 2 concomitantly (this population constitutes less than 3% of the HIV-positive population. We did not find any association between the three pathologies in the literature.

Ramsey Hunt Syndrome is diagnosed clinically and is based on a triad of otalgia, a vesicular rash of the external auditory canal and ipsilateral facial palsy, and is frequently associated with the involvement of other cranial pairs [12], such as the VIII, IX and/or X [13] or even the V and XII [5]. In our study, in addition to the peripheral facial palsy, we observed a paralysis of the VIII nerve [1].

The treatment was started within 48 hours of the onset of the paralysis, similar to the data in the literature [3] [4]. The evolution was marked 4 months later by the regression of the peripheral facial palsy from grade V to grade II, then almost complete after 6 months, the complete disappearance of the hypodensity at the level of the mastoid cells and the maxillary sinus. This evolution was favored by the precocity of the diagnosis and the management associated with the patient's compliance with the treatment. The combination of antiviral plus corticosteroid plus rehabilitation gave good results in our case as well as in several authors [2] [4]. These authors who have made similar observations agree on the fact that early diagnosis of the syndrome and management of facial palsy within 48 hours considerably improves the chances of its regression. In addition, the association of aciclovir with the use of corticosteroids versus the use of corticosteroids alone has a better impact on the treatment of herpes zoster auricularis, as we can observe in our case [2] [5] [15] [16] [17] [18], it can also shorten the time to asso-

ciated pain [12].

Sometimes it can happen that this association does not work much [12] [19], so some practitioners then try other alternatives like photodiagnosis and photodynamic therapy or radiofrequency on the great auricular nerve, and they report a good result [19] [20].

In the long term, although some patients managed appropriately, pain, facial dysfunction, scarring, and behavioral health issues may all persist. For this reason, optimal patient outcomes occur when care teams are multidisciplinary and include members with expertise in a wide range of specialties [1]. In our case, it was nurses for primary care, ENT, ophthalmologist, infectiologist and psychologist who were needed.

4. Conclusion

Otogenic diseases in HIV remain a problem in our context where the circumstances of discovery are most often fortuitous, hence the need to search for the serological status in front of any suspicion of viral infection in adults. The status may constitute a triggering factor or a factor of the severity of the pathology or of the symptoms, such as facial palsy or deafness in our case. Early and adapted management has been shown to improve the prognosis.

Conflicts of Interest

The authors declare that they have no conflicts of interest concerning this article.

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