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Could Sudden Unilateral Sensorineural Hearing Loss be the Only Manifestation of COVID-19: Case Report

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Abstract **Case Report**

Auditory neuritis associated with cochleitis has already been described in viral damage; Several mechanisms are mentioned; either indirectly by an antibody response that cross-reacts with an inner ear antigen, or directly by an invasion of the cochlear nerve or anterior labyrinth. Non-specific symptoms such as SSNHL might be the only sign to recognize COVID-19 cases. The aim of this article is to report case of 35 year old man; who presented sudden unilateral deafness as the only symptom of SARS covid 19.

Keywords: sudden, deafness, SARS covid 19

INTRODUCTION

More and more isolated cases of sudden deafness are described as possibly a sign of SARS-COV-2 infection. Auditory neuritis associated with cochleitis has already been described in viral damage; Several mechanisms are mentioned; either indirectly by an antibody response that cross-reacts with an inner ear antigen, or directly by an invasion of the cochlear nerve or anterior labyrinth.

We describe the case of a 35-year-old man with no history who had presented in consultation with a sudden unilateral deafness that appeared for 07 days without any other sign on clinical examination. Including the exhaustive complete etiology report showing SARS COVID.

OBJECTIVE

This study aimed to investigate the presence of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in patients with only sudden sensorineural hearing loss.

CASE REPORT

We report the observation of a 35-year-old with no particular history; p notions of blast or acute sound trauma; who presents himself to the ENT emergency room of the CHR of Guelmim for a sudden installation hearing loss without tinnitus without dizziness without facial paramysia; Saus other neurological syndrome or other associated symtomatology.

Otoscopic clinical examination is normal auditory pinna examination is without peculiarities no suspicious lesions on the area of ramsay hunt; the acoumetry showed a rhine test positive with a wheber deviated towards the healthy ear biological and serological assessments (TPHA VDRL; HIV; Lyme) returned normal; MRI of the internal auditory canal and pontocerebellous angle and cerebral was normal.

Tonal audiometry on day 1 returned in favor of sensorineural hearing loss at 50 dB average with both bone and air conduction curves contiguous and lowered and on day 8 total recovery (Figure 1 & 2).

Moreover, in the patient's entourage; his son had respiratory symptomatology with anosmia and agesia; the child's rapid test for the creche was positive; our etiologic survey was completed by a SARS covid PCR with positive serologies;

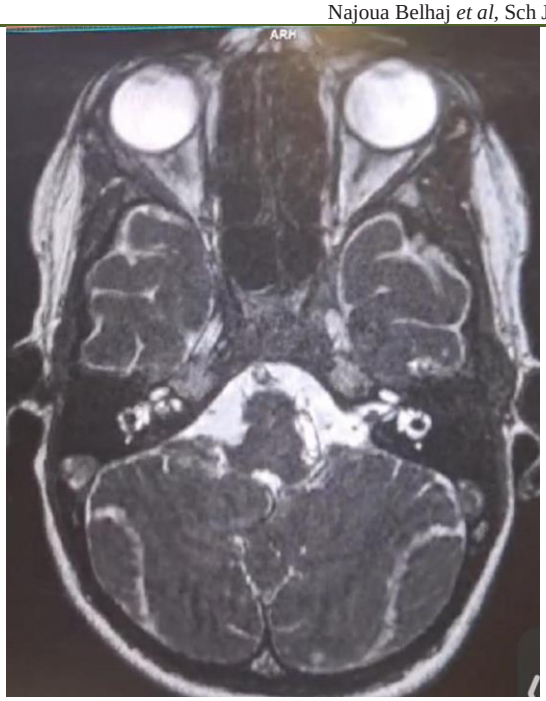

Figure 1: Normal MRI of the internal auditory canal and pontocerebellous angle and cerebral

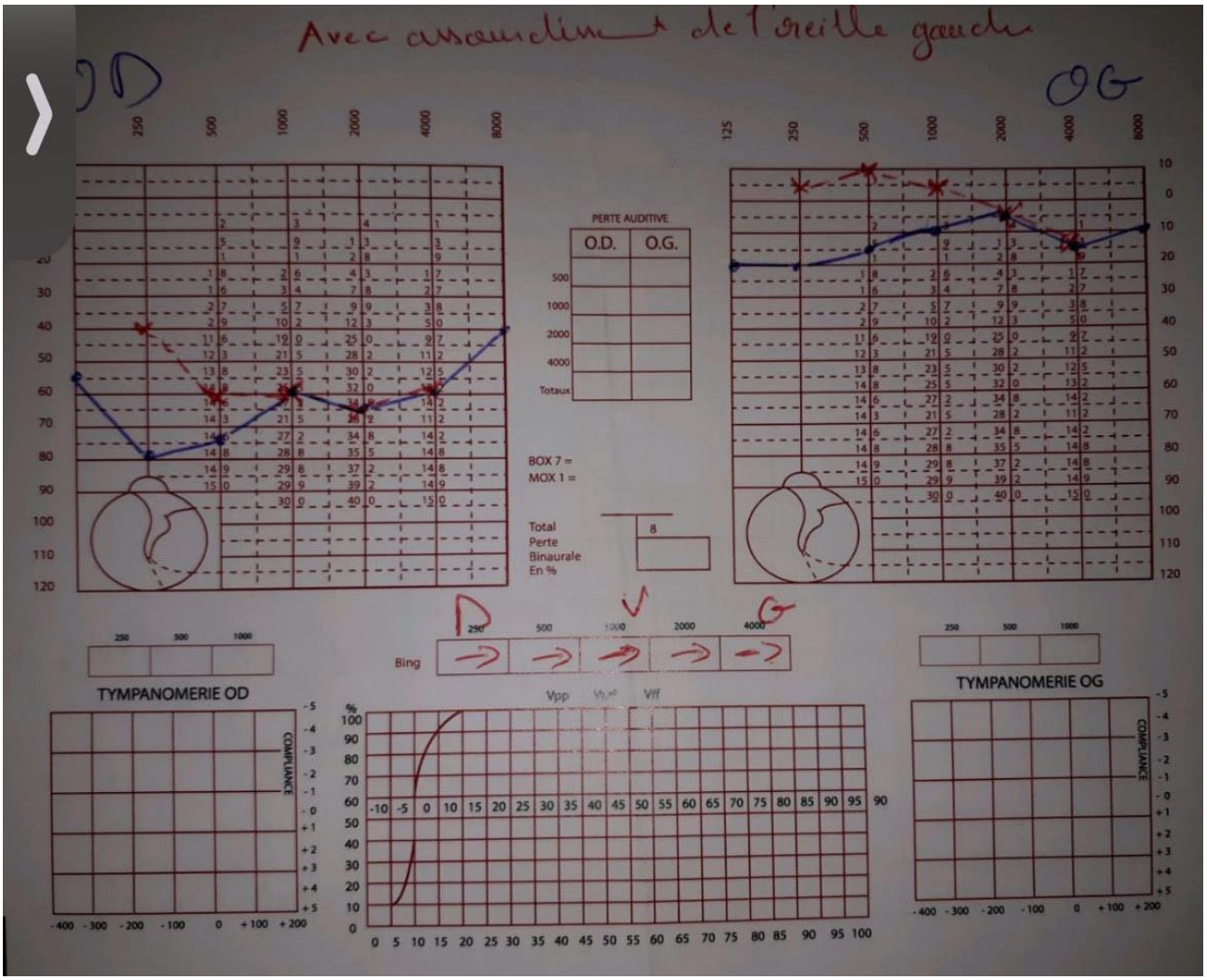

Figure 2: Right sensorineural hearing loss at 50 dB average with both bone and air conduction curves contiguous

The patient's treatment was corticosteroids at a dose of 120mg per day with vitamin therapy and auditory rest with Nootropyl (Piracetam) 800 mg at a dose of 3 tablets per day.

The kinetics of hearing recovery pleads in favor of diagnosis of sudden deafness secondary to covid.

DISCUSSION

Emerging in Wuhan, China, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes coronavirus disease (COVID-19), caused deaths from pneumonia and respiratory failure and was eventually declared a pandemic. It was identified as a clade of the coronavirus family, isolated from human airway epithelial cells (Zhu *et al*., 2020) and reported to be transmitted by droplets and direct contact, with an incubation period of 2 to 7 days extending to 14 days.

The disease can be asymptomatic in about a third of cases, accelerating the spread of the disease (Lai *et al*., 2020, Cao *et al*., 2020, Wu *et al*., 2020). The most common symptoms that accompany COVID-19 include fever, cough, sore throat, headache, muscle pain, diarrhea and dyspnea. As the infection spread, non-specific disturbances of taste and smell were also included in the symptom spectrum [1-3].

Viral infections can involve the cranial nerves, leading to LSNS, peripheral facial paralysis, or disturbances in smell and taste (Kennedy, 2010, Cohen *et al*., 2014, Mateer *et al*., 2018). The etiological factor of LSNH covers many viruses such as herpes simplex virus, human immunodeficiency virus, hepatitis virus, measles virus, rubella virus, mumps virus, Lassa virus and enteroviruses [1, 2].

Three mechanisms have been implicated in the occurrence of SSNHL associated with viral infections: neuritis caused by viral damage to the cochlear nerves, cochleitis due to viral damage to the cochlea and perilymphatic tissues, and the resulting stress response. Cross-reaction of inner ear antigens to viral infections (Wilson, 1989). Animal studies of various viruses have revealed induction hearing loss through direct damage to inner ear structures or indirectly through cerebrospinal fluid [3-5].

An important consequence of identifying COVID-19 in the etiology of LSNSS is choosing the correct treatment strategy to maximize clinical recovery and minimize side effects and complications. Corticosteroids play a key role in the treatment of LSNH (Hara *et al*., 2018). On the other hand, for the infection caused by this new virus like many other viral infections, the use of corticosteroids could pose a risk of increasing the severity of the infection and lead to delayed viral clearance (World Organization of Health, 2020) [3-5].

Studying the presence of SARS-CoV-2 in SSNHL patients and using other alternative treatment methods in COVID-19 positive cases could prevent such adverse consequences. In our case, the patient received corticosteroid therapy for 05 days but without adverse effects and the clinical picture did not show a deterioration in health or the appearance of other symptoms such as respiratory syndrome [5-7].

Furthermore, other cases of literature have been reported which used hydroxychloroquine orally 200 mg twice a day for 5 days and completely recovered from SSNHL; in our study it was not used but the result was the same.

CONCLUSION

It should be remembered that non-specific symptoms such as SSNHL might be the only sign to recognize COVID-19 cases. Awareness of such nonspecific presentation of COVID-19 patients is crucial during this pandemic period to prevent infectious spread through isolation and early initiation of targeted treatment against COVID-19.

REFERENCES

1. Rubin, 2020, Gralinski et Menachery, 2020, Duarte et al., 2020, Carlos, 2020, Morse et coll., 2020.
2. Wu, D., Wu, T., Liu, Q., & Yang, Z. (2020). The SARS-CoV-2 outbreak: what we know. *International journal of infectious diseases*, *94*, 44-48. doi: 10.1016/j.ijid.2020.03.004
3. Arabi, Y. M., Balkhy, H. H., Hayden, F. G., Bouchama, A., Luke, T., & Baillie, J. K. (2017). Syndrome respiratoire du Moyen-Orient, *N Engl J Med*, 37, p. 584-594.
4. La vascularite systémique à médiation immunitaire comme cause proposée de perte auditive neurosensorielle soudaine à la suite d'une exposition au virus de Lassa chez les macaques cynomolgus mBio, 9(2018), p. e01896-e1918.
5. Causes virales de la perte auditive: un examen pour les professionnels de la santé auditive Tendances Hear, 18(2014), 2331216514541361.
6. Desforges, M., Favreau, D. J., Brison, E., Desjardins, J., Meessen-Pinard, M., & Jacomy, H. (2013). Coronavirus humain: les agents pathogènes respiratoires revisités en tant qu'agents neuroinvasifs, neurotropes et neurovirulents infectieux CRC Press, p. 93-122.
7. Esaki, S., Goshima, F., Kimura, H., Ikeda, S., Katsumi, S., & Kabaya, K. (2011). Défauts auditifs et vestibulaires induits par une labyrinthite expérimentale suite au virus de l'herpès simplex chez la souris. *Acta Otolaryngol*, 131, p. 684-691.