

Mask-induced ear injury in schizophrenia: A novel complication in the COVID-19 era

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Dear Editor,

The long COVID-19 pandemic has significantly impacted our daily lives, including that of patients.¹ Moreover, people have been forced to wear masks in public spaces to prevent infection. Thus, more attention is being paid to mask-induced ear injury as a novel form of medical device-related pressure injury in the COVID-19 era.^{2,3} Medical device-related pressure injuries among patients treated in the intensive care unit have been discussed.⁴ These discussions now include such injuries occurring in medical staff working in the frontline of COVID-19.⁵ Because of mild cases, they may be underestimated in the general population. However, such injuries in patients with mental illnesses may worsen. Levine *et al.* reported one case of dementia in a long-term care residence showing ear injury induced by continuous mask use. They discussed dementia as a risk factor for ear injuries.³ Here, we present a case of schizophrenia with ear injuries induced by the prolonged usage of masks during the COVID-19 pandemic. Written informed consent was obtained from the patient in accordance with ethical guidelines for case reports of the Japanese Society of Psychiatry and Neurology.

Our patient was a woman in her 40s diagnosed with schizophrenia based on the criteria described in the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders. She had no significant medical or family history of schizophrenia. She graduated from technical school and had a job before the onset of schizophrenia. Her symptoms began in her 30s, and her illness had lasted approximately 10 years, being admitted four times before her current admission. Her most recent admission was before the COVID-19 pandemic. On admission, her symptoms included auditory verbal hallucinations and delusions but improved with clozapine administration (up to 375 mg and 200 mg as a maintenance dose). However, the patient's negative symptoms persisted.

Due to her treatment-resistant condition and lack of social support during the pandemic, her hospital stay was prolonged (more than 2 years after the pandemic started). Regarding the Positive and Negative Syndrome Scale, her positive, negative, and general scores were 14, 26, and 47, respectively. Her Life Skills Profile was overall 69 points (self-care, 19; nonturbulence, 14; social contact, 13; communication, 11; and responsibility, 12), suggesting poor self-care. Her cognitive function was assessed using the Brief Assessment of Cognition in Schizophrenia, showing a severe level of cognitive impairment (composite Z-score, -4.10; verbal memory, -4.08; digit sequencing, -1.94; token motor task, -3.43; verbal fluency, -3.05; symbol coding, -2.80; and tower of London, -0.29).

At a point in time, a nurse noticed injuries in both her ears, with the left ear injury being more severe (see Fig. 1). This was clearly induced by the prolonged use of masks. When we asked her about it, she told us that she had perceived them for 1 week, and she initially did not realize that these injuries were caused by masks. She eventually understood this after providing a repetitive explanation. These injuries also reminded us of her inappropriate mask use, such as mask use even while she slept and wearing a mask on her chin, leading to longer and higher tension on her ears than



Fig. 1 An injury in the postauricular area of the patient's left ear.

usual. The injuries were improved using gentamicin sulfate, and her original mask was replaced with new masks to avoid pressure on the ears.

The mechanism of mask-induced ear injury is considered a pressure ulcer, and the unique anatomy of the postauricular area makes the ear vulnerable to such.⁵ Recommendations for prevention include ear injury education, self-check of mask tension, regular inspection of the skin/ear conditions, and using masks only when necessary.⁵ Conversely, in schizophrenia, poor hygiene is well known and associated with negative symptoms.⁶ Low sensitivity to pain is also evident in patients with schizophrenia.⁷ Cognitive impairments in schizophrenia cause difficulty in solving daily life problems as well.⁸ These factors may increase the risk of mask-induced ear injuries in patients with schizophrenia. If the patient had lived alone and no one had checked regularly, the ear injuries might have been worse. Complications not recognized by medical staff may result in severe outcomes.⁹ Generally, continuous support for appropriate mask-wearing is important in psychiatric clinical practice, especially for patients with schizophrenia, as well as the encouragement of handwashing and education regarding specific knowledge.¹⁰

In conclusion, mask-induced ear injury is a novel complication of the COVID-19 era, of which patients with schizophrenia are at risk. We, therefore, need to recognize this risk, examine it, and encourage patients with schizophrenia to follow the recommendations mentioned above.

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Disclosure statement

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