

Corona Virus “Delta variant” Effect on Otolaryngology

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The clinical findings of COVID-19 developing with the delta variant show a different course from the classical COVID-19 clinical results. Cold symptoms such as sore throat, runny nose, and headache develop more dominantly than classical findings such as fever [1]. The delta coronavirus variant, first discovered in India, may be causing symptoms not typically seen in COVID-19 patients. These symptoms include stomach pain, nausea, vomiting, loss of appetite, hearing loss and joint pain, according to six physicians treating COVID-19 patients across the country [2]. The novel coronavirus disease (COVID-19) pandemic has had a particularly large influence on otolaryngology. Molecular studies have shown that nasal epithelial cells are the entry site for the coronavirus in the body, and that it is important in spreading to other people as well as spreading in the human body [3]. As with other RNA viruses, the delta variant develops new variants and mutates continuously as the infection continues [4]. Delta variants are all the worrying variant, which allows the virus to be transmitted more easily, making the virus less responsive to treatments, or affecting how well vaccines work against the virus [5]. Current evidence points to higher transmissibility and secondary attack rates, and higher severity and risk of hospitalization, for the variant of concern Delta [6]. A study showed that when unvaccinated people are infected with the delta variant, there are significantly more hospitalizations than with the alpha variant [7]. In the presence of any systemic disease in unvaccinated COVID-19 patients, the risk of intubation and death increases in patients [8]. As a result of any mutation in the delta variant spike protein, the binding affinity for the angiotensin-converting enzyme 2 receptor increases, increasing infectivity and contagiousness [9]. Another finding is that the Delta variant of the virus has been cause more earache than other mutations. This

is likely because Delta causes more upper respiratory symptoms and for this reason, it potentially causes ear infections. In rare sudden hearing loss from coronavirus can be an initial symptom, and published cases have demonstrated this condition. In a previous study, it was shown that unilateral hearing loss and vertigo may occur in some patients. In another report showing the relationship between sudden sensorineural hearing loss and COVID-19, the patient did not have coronavirus symptoms, but the test for coronavirus was reported as positive. This situation supports that COVID-19 infection can directly cause only sudden hearing loss. The more common clinical course is actually the presence of hearing loss, tinnitus and dizziness that occurs later in the infection process. Recent research on coronavirus disease has shown that the virus is linked to tinnitus in some people. There are no large studies examining the auditory complications of COVID-19, but there are many case studies. Tinnitus is often thought to be caused by stress. In a study conducted in Israel, it was shown that COVID-19 infection does not cause auditory nerve damage. In this study, ototacoustic emission (OAE) and auditory brainstem response (ABR) tests were used to evaluate auditory functions. Hearing loss or tinnitus can be a side effect of medications used to treat it. Koronavirüsü tedavisinde kullanılan bazı ilaçlar işitme kaybı, kulak çınlaması veya baş dönmesine yol açabilmektedir. Some coronavirus patients may experience long-term illness and atypical symptoms. In a large survey of 650 patients, approximately one-third of patients had ear pain and two-thirds had dizziness and vertigo [10]. In the smell and taste loss questionnaire, which included 798 COVID-19 positive participants, it was shown that the smell and taste functions of patients younger than 40 years of age improved faster than patients older than 40 years. In another study, it was shown that the

sense of smell and taste improved in the vast majority of patients within six months, regardless of age. It has been demonstrated by clinical smell study groups that smell therapy can be used to accelerate the healing of nerve damage. Implant devices have been used for years to correct olfactory functions and may be an alternative treatment option for patients with permanent loss of smell. These devices are similar to cochlear implant devices [11]. Delta variant patients with severe COVID migraine/headache phenomena may also have some chronic COVID brain symptoms. This presents as nonspecific concussion symptoms such as mental fatigue, eyestrain, nonspecific dizziness, lightheadedness in wide-open spaces [12]. One of the most common causes of facial paralysis, Bell's palsy usually affects only one side of the face. Most people begin to recover within 2 weeks without the need for treatment and recover completely within 3 to 6 months [13].

As a result, the delta variant may cause symptoms similar to other viral infections, especially taste-smell disorder in the head and neck region, and the treatment protocol is the same as for other viral infections.

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