COVID-19 and Hearing Implants

Publications

Status Report

(June 20 – July 31, 2020)

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Publications

Nine (9) publications were identified for the period between June 20 and July 31, 2020, with interesting information of the following topics:

Epidemiology

- New publication from the largest seroprevalence study in Europe (Spain ENE-COVID), with more than 61,000 participants, revealed only 5% positive in general population. This implies that **herd immunity is difficult to achieve**. Marina Pollán et al. (July 6, 2020), THE LANCET.
- New publication in Cell is suggesting that a mutated SARS-Cov-1 virus, G614 variant, is more infectious, but may not be more pathogenic. Various expert opinions are presented here: https://www.sciencemediacentre.org/expert-reaction-to-paper-tracking-mutations-in-the-sars-cov-2-virus-with-possible-implications-for-infectiousness/

COVID-19 in children and adolescents

- For the period from March 15 to May 20, 2020 in USA, there are 186 patients with MIS-C reported in 26 states. 164 (88%) were hospitalized after April 16, 2020. **148 patients (80%) received intensive care**, 37 (20%) received mechanical ventilation, 90 (48%) received vasoactive support, and 4 (2%) died. Leora R. et al (June 29, 2020), NEJM.

COVID-19 and Inner ear function

- Persistent self-reported changes in hearing and tinnitus among 138 post-hospitalization COVID-19 patients in UK (Manchester). 16 (13.2%) reported a change in hearing and/or tinnitus since being diagnosed. One of them reported also vertigo. Audiology assessment was delayed because of the ongoing pandemic. Kevin J. Munro et al., (July 31, 2020) Int J Audiol.
- On July 27, The Science Times provided reported on this topic by highlighting the findings, which include case study reviews of COVID-19 patients experiencing hearing loss and ringing in the ears, exploring the link between viral infection and hearing problems, and addressing the concern of ototoxicity from the medication used to treat COVID-19. *The Science Times* provides direct links to each manuscript and notes, "More studies are needed to prove these claims. Preferably done in a larger sample and tested before and after getting the infection."
- Serotonin is a sensitive and specific marker for SSNHL diagnosis, and probably activates platelets in the microcirculation. SARS-CoV-2 infection appears to cause endotheliitis in the hearing center of the temporal lobe, the cochlear nerve, and tissues of the cochlea. Serotonin release and SARS-CoV-2 infection intertwine to activate platelets and drive SSNHL, and this needs to be tackled by specific interventions. Job Harenberg et al (July 28, 2020). Thromb Heamost.
- Case report on transient hearing impairment on a 61 year old COVID-19 patient reported by Jeku Jaco (July 14, 2020), Internal Medicine Journal

Health Care Workers

- **Delayed return to the work**: in a multistate (USA) telephone survey of symptomatic adults who had a positive outpatient test result for SARS-CoV-2 infection, 35% had not returned to their usual state of health when interviewed 2–3 weeks after testing. Among persons aged 18–34 years with no chronic medical conditions, one in five had not returned to their usual state of health. Reported by MMWR on July 31, 2020.

- A pre-clinical study demonstrated **that droplet spread during simulated CI surgery extended over 2 meters**, a distance greater than previously reported. A drape 'tent' significantly reduced droplet spread. The ensemble of a half-face mask and safety spoggles (foam lined safety goggles) had consistently superior performance across all aspects of clinical usability. All other PPE options were found to substantially restrict the visual field, making them unsafe for microsurgery. Lawrence, Rachel J., et al (July 27, 2020). The Laryngoscope.
- Lack of guidance on PPE **for hearing impaired doctors** was recognized by Williams Isabelle (July 17, 2020. BMJ). " … I question whether facemasks alone are satisfactory in the long term. Alternatives, such as visor-like facial coverings, could provide better communication in low risk settings …. Masks, with their ear loops, are not ideal for hearing aid wearers. Visors are sturdier, attach around the head, and allow lip reading. … Yet because they lack a good facial seal peripherally, face shields cannot be used as primary protection for preventing respiratory disease transmission. **Innovation is needed**. "
- A brief review of the existing knowledge on the ENT surgeon's approach towards management of patients during the COVID-19 pandemic was provided by Akriti Sharma et al. (Jul 11, 2020). European Archives of Oto-Rhino-Laryngology.