Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Asymptomatic SARS-COV-2 infection in children's tonsils

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SARS-CoV-2 pandemic killed over 6 million people worldwide. Although COVID-19 is mainly known for lung infection, several extrapulmonary tissues had been described as infected by SARS-CoV-2 during the acute disease. At least for the initial variants, children were supposedly less exposed to the virus, predominantly presenting mild or asymptomatic infection. In the present study, we describe how SARS-CoV-2 can silently infect palatine tonsils and adenoids from asymptomatic children. We studied 48 children who underwent adenotonsillectomy between October 2020 and September 2021. None of them had experienced signs or symptoms of acute upper airway infection in the month prior to surgery. Nasal cytobrush, nasal wash and adenotonsillar tissue samples were tested by RT-PCR, immunohistochemistry (IHC), flow cytometry and neutralization assay. SARS-CoV-2 was detected in at least one sample in 12 patients (25%). SARS-CoV-2 genome detection rate was 20% in the tonsils, 16.27% in the adenoids, 10.41% of nasal cytobrushes and 6.25% of nasal washes. IHC confirmed the presence of SARS-CoV-2 nucleoprotein in 15 out of 16 positive tonsils samples, both in epithelium and lymphoid compartment. Flow cytometry revealed that CD123+ dendritic cells were the most frequently infected cell type (10.57%) followed by CD14+ monocytes (6.32%), CD4+ T lymphocytes (1.75%), CD20+ B lymphocytes (1.67%), and in less extent CD8+ T lymphocytes cells (1.36%). In conclusion, tonsils and adenoids are important sites of SARS-CoV-2 infection in asymptomatic children. Positive immunostaining in adenotonsillar tissue samples suggest that lymphoid tissue can be a reservoir of SARS-CoV-2 and may play an important role in community dissemination. It remains unclear for how long the lymphoid tissue can sustain the SARS-CoV-2 in a persistent infection, and whether this persistence has any impact on virus transmission.

Keywords: COVID-19; SARS-CoV-2; Children; Tonsils; Adenoid.

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Surgical results and clinical performance of an active transcutaneous osseointegrated implant

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Objective: To investigate the surgical results and clinical performance of an active osseointegrated implant system with piezoelectric technology.

Method: National, prospective multicenter study of repeated measures. The study was approved by the Ethics Committee under opinion CEISH 0559-2019. Patients with conductive or mixed hearing loss in the ear to be implanted with quadritonal mean (MQT4 = mean of 0.5, 1, 2 and 4 kHz) of bone pathway thresholds for pure tone of up to 55 dB NA were included. Patients with unilateral sensorineural hearing loss (PANU) who were candidates for osseointegrated implant surgery were also included. Surgical parameters, functional gain (GF) and self-perception of benefits were evaluated. Surgical data were recorded on an electronic data collection platform. The funiconal gain was obtained by comparing the pre-surgical audiometric thresholds without assistance, with the post-cirugic thresholds with the implanted system, in a free field with the speaker positioned at @@0. Azimuth 1 meter from the participant's head. Participants also completed the COSI questionnaires reporting subjective expectations and perceptions of benefit.

Results: Between June 2020 and July 2022, 380 participants aged 5–73 years were included; 87% adults, 52% men, 50% of devices implanted in the right ear and 19% bilateral. Most patients had a diagnosis of conductive hearing loss (61%) followed by mixed hearing loss (24%) and the remainder of PANU. Among the surgeries, 13% corresponded to the conversion of other devices to piezoelectric. The surgeries lasted an average of 53 min. The average skin thickness was 5.7 mm with only 22% soft tissue reduction and 7% bone polishing. The mean FREE-FIELD GF observed for pau cases was 65.4 dB. In conductive hearing loss, the mean GF obtained was 41.2 dB and finally in mixed hearing loss, the GF observed was 47.9 dB. The comprehension of speech in noise was pointed out as the main issue to be improved with the device and the improvement was reported by the patients.

Discussion: A new active transcutaneous BCHI design using piezoelectric stimulation for rehabilitation of patients with LHC, MHL, or SSD was clinically evaluated in this national multicentric clinical investigation. Surgical and clinical–audiological results collected during the 6-month follow-up period demonstrate that the system is safe and presents itself as an excellent option for auditory rehabilitation. The implant has a low profile, with fine design of the piezoelectric actuator, does not require frequent bone chopping, and when necessary, bone removal is minimal compared to other active transcutaneous systems, which require the electromagnetic actuator to be Indented. This