

Poor oral health among edentulous patients after severe SARS-CoV-2 infection undergoing non-invasive mechanical ventilation

Objectives. The impact of the pandemics on the oral health of the edentulous elderly is still unknown. Understanding the cause-and-effect relationships may allow individualized adjustment of oral care recommendations during Covid-19 disease. The study's objective was to compare oral health during hospital treatment due to adverse Covid-19 among edentulous and dentate patients.

Material and Methods. One-hundred and twenty patients (mean age 74.4 ± 15.4 ; male $n=50$ /female $n=70$) were examined in the acute phase of Covid-19 during hospital treatment. The condition of oral mucosa (BRUSHED and Beck scores), blood biochemical parameters (D-dimer, C-reactive protein CRP, lymphocyte, interleukine-6 IL-6) and clinical status (respiratory failure as pneumonia and Covid-19 symptoms severity) were compared between dentate and edentulous patients. All results were considered significant at $p < 0.05$.

Results. All patients presented characteristics of the dental plaque retention (83.4%), xerostomia (74.2%), oral mucosa inflammation (80.8%), angular cheilitis (53.3%), hemorrhage (21.7%) with a higher incidence of harmful oral conditions among edentulous patients. This group had also higher BRUSHED and Beck scores indicating a need for oral care every 8 hours. Multiple regression selected the following risk predictors for pneumonia as IL-6, CRP, PCR index and Beck score ($p < 0.001$). Patients who received oxygen therapy with face masks had more often angular cheilitis and debris ($p=0.025$, $p=0.035$).

Conclusions. COVID-19 hospitalised patients with severe symptoms crossing with poor oral health-related conditions, particularly among edentulous patients. For Covid-19 management, in order to inhibit extra- and intra-oral complications, it is recommended to adjust oral hygiene procedures, including antibacterial, protective, moisturising agents after professional oral health examination.

Keywords: edentulous, prosthetic condition, oral health, Covid-19, hospitalisation