Documents

Bachtiar, E.[a] , Bachtiar, B.M.[a] , Kusumaningrum, A.[b] , Sunarto, H.[c d] , Soeroso, Y.[c] , Sulijaya, B.[c] , Apriyanti, E.[e] , Theodorea, C.F.[a] , Putra Pratomo, I.[f] , Yudhistira, Y.[g] , Efendi, D.[h] , Lestari, W.[i]

The utility of salivary CRP and IL-6 as a non-invasive measurement evaluated in patients with COVID-19 with and without diabetes

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[a] Department of Oral Biology and Oral Sciences Research Center, Faculty of Dentistry Universitas Indonesia, Jakarta, 10430, Indonesia

[b] Department of Microbiology, Faculty of Medicine, Universitas Indonesia, Clinical Microbiology Medicine Staff Group, Universitas Indonesia Hospital, Jakarta, 10430, Indonesia

[c] Department of Periodontology, Faculty of Dentistry, Universitas Indonesia, Jakarta, 10430, Indonesia

[d] Dental Center, Universitas Indonesia Hospital, West Java, Depok, Indonesia

[e] Department of Pediatric Nursing, Faculty of Nursing Universitas Indonesia, Paediatric Intensive Care Unit, Universitas Indonesia Hospital, West Java, Indonesia

[f] Department of Pulmonology and Respiratory Medicine, Faculty of Medicine, Universitas Indonesia, Salemba Raya 6, Jakarta, 10430, Indonesia

[g] Clinical Pathology Medicine Staff Group, Universitas Indonesia Hospital, West Java, Depok, Indonesia

[h] Department of Pediatric Nursing, Faculty of Nursing Universitas Indonesia, Neonatal Intensive Care Unit, Universitas Indonesia Hospital, West Java, Depok, Indonesia

[i] Oral Biology Unit, Fundamental Dental and Medical Sciences Kuala Lumpur, Malaysia International Islamic University Malaysia, Kuala Lumpur, Malaysia

Abstract

Background: The available evidence suggests that inflammatory responses, in both systemic and oral tissue, contribute to the pathology of COVID-19 disease. Hence, studies of inflammation biomarkers in oral fluids, such as saliva, might be useful to better specify COVID-19 features. Methods: In the current study, we performed quantitative real-time PCR to measure salivary levels of C-reactive protein (CRP) and interleukin-6 (IL-6) in saliva obtained from patients diagnosed with mild COVID-19, in a diabetic group (DG; n = 10) and a non-diabetic group (NDG; n = 13). All participants were diagnosed with periodontitis, while six participants with periodontitis but not diagnosed with COVID-19 were included as controls. Results: We found increases in salivary total protein levels in both the DG and NDG compared to control patients. In both groups, salivary CRP and IL-6 levels were comparable. Additionally, the levels of salivary CRP were significantly correlated with total proteins, in which a strong and moderate positive correlation was found between DG and NDG, respectively. A linear positive correlation was also noted in the relationship between salivary IL-6 level and total proteins, but the correlation was not significant. Interestingly, the association between salivary CRP and IL-6 levels was positive. However, a moderately significant correlation was only found in COVID-19 patients with diabetes, through which the association was validated by a receiver operating curve. Conclusions: These finding suggest that salivary CRP and IL-6 are particularly relevant as potential non-invasive biomarker for predicting diabetes risk in mild cases of COVID-19 accompanied with periodontitis.

Author Keywords

C-reactive protein; COVID-19; Diabetes; interleukin-6; periodontitis

Index Keywords

biological marker, C reactive protein, interleukin 6, C reactive protein, interleukin 6; adult, aged, area under the curve, Article, controlled study, coronavirus disease 2019, correlation analysis, diabetes mellitus, diagnostic test accuracy study, female, human, major clinical study, male, middle aged, mouth tissue, non invasive measurement, periodontitis, protein expression, quantitative analysis, real time polymerase chain reaction, receiver operating characteristic, saliva, saliva level, validation process, complication, diabetes mellitus, periodontitis; C-Reactive Protein, COVID-19, Diabetes Mellitus, Humans, Interleukin-6, Periodontitis

Chemicals/CAS

C reactive protein, 9007-41-4; C-Reactive Protein; Interleukin-6

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Correspondence Address
Bachtiar E.; Department of Oral Biology and Oral Sciences Research Center, Indonesia; email: endang04@ui.ac.id

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