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LETTER TO THE EDITOR

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# Pediatric multisystem inflammatory syndrome temporally associated with SARS-COV-2: Oral manifestations and implications

Dear Editor,

In connection with the editorial of Mallineni et al[1] 2020 on the coronavirus disease (COVID-19) characteristics in children, we aim to demonstrate the emerging pediatric multisystem inflammatory syndrome temporally associated with SARS-COV-2 (PMIS-TS) from oral health professionals perspective. The epidemiological burden of COVID-19 in children was unexplainably lower than adults; therefore, it was predicted that the clinical course differs between children and adults, such hypothesis was confirmed by the surging cases of PMIS-TS.[2]

The first cluster of PMIS-TS cases was reported in Italy with Kawasaki-like symptoms including persistent fever, non-exudative conjunctivitis, polymorphic rash, and oral changes.[3] Lips and mucosal changes were detected in 87%, 53%, 50%, and 29%, of the reported cases in France, USA, Italy, and UK respectively.[3-6] Besides the typical Kawasaki disease (KD) criteria of the strawberry tongue (prominent lingual papillae), dry, erythematous or cracked lips, and erythema of the oropharyngeal mucosa, less frequent oral symptoms were observed in PIMS-TS cases including sore throat and swelling of the lips which used to appear rarely in KD cases.[7] The more significant fraction of COVID-19–related cases, however, is atypical KD; it is worthy to note that oral changes are the only symptom to be recognized with an equally high frequency in both typical and atypical KD cases.[8]

The onset of PMIS-TS oral manifestations has not been established yet due to its emerging nature; however, its clinical course resembles the course of KD. The inaugural acute phase of KD is characterized by the persistent fever which is unresponsive to antibiotics and antipyretics and is commensurate with oropharyngeal mucositis and lip changes; therefore, KD cases may attend dental and otolaryngological clinics prior to seeking intensive care facilities. KD reoccurs in 2%-3% of cases, even though its chief complication is cardiac aneurysm if left misdiagnosed.[7]

Oral and lingual ulcers are not detectable in KD or PMIS-TS cases; however, reduced oral intake was reported in a PMIS-TS case during the early stage before her hospitalization.[9,10] Although microstomia may develop in a late stage of KD, oral necrotizing microvasculitis was present in critically ill patients.[11,12] Oral manifestations are generally self-limited; however, they may require supportive treatment in few cases.[13]

Sensitive case definitions for the PIMS-TS were established by the international and national health authorities in order to track all true-positive cases. Oral mucocutaneous signs and dermatologic changes are recognized by the World Health Organization (WHO), and Centers for Disease Control and Prevention (CDC) among the clinical findings need to be met.[14,15] Bluish lip is suggested as a warning sign for caregivers to seek emergency care.[15]

To conclude, pediatric dentists and general dental practitioners may have a lifesaving role in early diagnosis of PMIS-TS through its characteristic oral and dermatologic manifestations; therefore, dentists' awareness of Kawasaki symptoms should rise during the upcoming months. Teledentistry applications may increase the odds of PMIS-TS early detection by teaching the caregivers about its clinical characteristics. Dentists also should bear in mind the possibility of KD recurrence with cardiac valvular involvement requiring antibiotic prophylaxis before dental treatments.

## CONFLICT OF INTEREST

Authors declare no conflict of interest to be reported.

## AUTHOR CONTRIBUTIONS

Riad A. and Klugar M. conceived the ideas. Sagiroglu D. and Boccuzzi M. led the writing and reviewing the draft. Krsek M. supervised the whole process.

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