President Award Lecture

Consecutive cemental tear in the same oral cavity: case report

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Introduction

With the aging of patients, the rapidly progressive periodontal disease caused by cemental tear is anticipated to increase, therefore there will be a need to handle this in dentistry. I encountered a case with consecutive cemental tear in 5 teeth in an individual. By microdentistry 4 teeth are sound, and 1 tooth was extracted. The whole tooth socket was covered with cementum detached from the root. Here I report a case of cementum removal using the microscope.

Case

A 53-year-old male presented with crown dislodgement and occlusal discomfort on the mandibular right first molar. The core was also dislodged, leaving a residual root. From percussion, radiographs (CBCT included), and periodontal examination the tooth was diagnosed as periapical periodontitis. After initial periodontal therapy, root canal treatment and resin core build-up were performed on the first molar and set a 6 months follow-up.

Next, debridement under infiltration anesthesia was performed at the maxillary left first premolar, where a 6mm periodontal pocket was measured in the mesial. However, detached cementum-like hard tissue fragments were removed from the gingival sulcus.

4 months later, maxillary left lateral incisor labial gingiva suddenly swelled, pus discharge was observed. The labial periodontal pocket was 6mm, and the pulp was vital, therefore, the cause of swelling and the pus was diagnosed as infection from the periodontal pocket. When debridement under infiltration anesthesia was performed, detached cementum-like hard tissue fragments were found as like the first premolar.

Another 2 months later, the maxillary right central incisor labial gingiva swole, and pus was observed. Symptoms of pulpitis occurred, dental pulp extraction was performed. After that, debridement under infiltration anesthesia was performed, hard tissue fragments were found as like the left first premolar and the lateral incisor.

1 week later, the radiolucent area at the apical of the mandibular right first molar had disappeared and was showing steady progress, showed swelling and dental abscess. After acute inflammation disappeared, regenerative therapy was tried but did not show successful results. Another 2 months later, dental abscess occurred at the lingual gingival, and the tooth was extracted. Ankylosis was not recognized and the extraction was uncomplicated, however, with close inspection using the microscope the entire surface of the tooth socket did not show bleeding, and a smooth surface different from the property of the bone was observed. When the elevator was inserted at the edge of the smooth tissue, it peels off and underneath the bleeding bone surface appears. Thus it was judged that the tooth socket was entirely covered with detached cementum from the root was left, the hard tissue was then appropriately separated and removed. The removed hard tissue fragments were sent for histopathologic examination, the fragments were identified as not bone tissue, however, as cemental tear mainly formed from acellular cementum.

After 2 months, maxillary right canine distal gingiva swelled, flap operation under infiltration anesthesia was performed, the same detached cementum-like hard tissue fragments were recognized and removed.

6 months after the root debridement of 4 teeth, the maxillary left lateral incisor, first premolar and right canine teeth attachment recovered and the periodontal tissue was stable. However, the maxillary right central incisor labial remained at 6mm periodontal pocket depth. The extracted mandibular right first molar tooth socket healed normally, implant placement surgery was performed and the progress is being observed.

Discussion

The mechanism of cemental tear is still undiscovered. Cases of cemental tear occurring in multiple teeth in the same oral cavity have been reported in the past, but the number is small. Occlusal force is said to be relevant of the cause of cemental tear, however, since it also occurs in impacted wisdom teeth whether to comprehend it as part of the aging process, or genetical factor is still unknown.

Prognosis of the cemental tear, in the molars usually is followed by extraction. After extraction curettage is important, especially when an implant is planned it is important to not leave contaminant and cause unhealed tooth socket. Conventionally, tooth socket curettage is done by sharp curette under the naked eye or laser. However, in cases when detached cementum resides, it is extremely hard to differentiate it from bone tissue with the naked eye and thought to miss the existence of the cementum. In this case, I was able to see the remains of the cementum using the microscope to observe the tooth socket. However, even if the cementum is perceived the right mirror technique is needed to use the microscope, and quick assistant work is crucial to control the bleeding from blocking the visual field.

In this case, after 8 months of waiting, the tooth socket was judged as normal and ossified, implant placement surgery was performed. The maxillary left lateral incisor, first premolar, and right canine teeth after undergoing debridement under infiltration anesthesia and regenerative treatment the periodontal tissue showed stability, however, this is thought to have succeeded by a thorough inflammatory substance removal by using the microscope.

Conclusion

In this case, I report consecutive cemental tear in 5 teeth of a 53-year-old male. The use of the microscope for the debridement of cemental tear of the root and the curettage of the cemental tear remains in the tooth socket, the right mirror technique for the microscope, and assistant work was suggested to be effective.

Professional career

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