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mikrosirkulyatsiyasi buziladi. Parodont biotipi tishlarning zich joylashuvida yupqa bo'ladi va milk epiteliysi keratinizatsiyasi ham kamaygan bo'ladi. Bu omillarning barchasi parodont to'qimalari yallig'lanishiga sabab bo'ladi.

Maqsad: Bolalarda tishlarning zich joylashganligida milkning klinik-funksional holatini baholash.

Materiallar: TDSI bolalar terapevtik stomatologiyasi poliklinikasi va ortodontiya poliklinasiga kelgan 70 ta tishlarining zich joylashganligiga shikoyati bo'lgan 8-16 yoshdagi bolalar.

Metodlar: Parodont to'qimasi holatini aniqlash maqsadida quyidagi indekslardan foydalanildi: OHI-S (ball), PMA (%), CPI (ball) va milk qonash indeksi (ball).

Tadqiqot natijasi: Taqiqotda 8 yoshdan 16 yoshgacha bo'lgan 42 ta o'g'il bolalar va 38 ta qiz bolalar parodont holati 4 xil indeks bo'yicha tekshirilganda quyidagi natijalar olindi:

O'g'il bolalarda OHI-S $2,38 \pm 0,16$ ball

PMA 11,57%

CPI $2,38 \pm 0,17$ ball

Milk qonash indeksi $3,2 \pm 0,16$ ball

Qiz bolalarda OHI-S $2,33 \pm 0,16$ ball

PMA 11,26%

CPI $2,18 \pm 0,17$ ball

Milk qonash indeksi $3,2 \pm 0,16$ ball

Xulosa: Olingan natijalardan ko'rinib turganidek, tishlarning zich joylashuvida uning darajasiga bog'liq holda parodont to'qimasida yallig'lanish kasalliklari kuzatiladi. Bunday bemorlar ortodontik davo bilan birgalikda parodont to'qimalari kasalliklarini terapevt stomatolog ham davolashi talab qilinadi. Bemorlaga kompleks davo o'tkazilishi davolash samaradorligini oshiradi.

MANAGEMENT OF MISSING MOLARS WITH ORTHODONTIC SPACE CLOSURE

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Abstract. Premature molar loss results in inclination of teeth adjacent to the edentulous gap, uneven marginal ridges, posterior collapse of bite, and atrophy of the residual bone width. The orthodontic treatment aimed at closing post-extraction spaces is one possible treatment plan. However, in many cases this movement is compromised by the collapse of cortical plates and the decrease of the osseous corridor. Due to this problem, flexicorticotomy may be considered as an alternative in the mesialization of molars to improve residual bone width and to accelerate orthodontic movement. A 22-year-old female patient underwent extraction of the right mandibular first molar. A flexicorticotomy was performed to accelerate the mesial movement of teeth number 37 and 38, using a miniscrew for absolute anchorage. This technique helped mesialize teeth number 37 and 38, attaining a stable class I relationship, thus finding an orthodontic solution to a problem that was

historically treated only prosthetically. In conclusion, this technique facilitates the mesial movement of molars, reaching treatment goals more effectively, and saving costs by avoiding further prosthetic treatment.

INTRODUCTION. The orthodontic movement aimed at closing posterior edentulous gaps is a clever idea but often difficult to perform due to a decrease in residual alveolar ridge width and the common collapse of the vestibular and lingual tables at the extraction site, especially if it has been done long ago. 1 Premature loss of the first permanent molar is very common because it appears in the oral cavity at an early age, with more chances to experience cavities and to require early extraction. 2,3 This causes the mesial inclination of the second and third molars, distalization of premolars, extrusion of the antagonist molar, alteration of the gingival margin to the inclined molar, uneven marginal ridges, food impaction and finally bite collapse, producing occlusal interferences, periodontal diseases, bruxism, decreased chewing effectiveness and alterations at the temporomandibular joint. 4-6 Therefore, one of the possible treatments is the orthodontic closure of these edentulous spaces.

Treatment plan

Rothslot 0.022” orthodontic apparatus was placed, performing the following actions: alignment and leveling, placement of orthodontic implant between teeth 35 and 34, flexicorticotomy for the mesialization of teeth 37 and 38, completion and containment, placing upper and lower circumferential retainer.

Treatment phases

Phase 1. Alignment and planing

The following sequence of archwires was used during a 5-month period.

- 1) 0.012” NiTi archwire. Super Elastic
- 2) 0.014” NiTi archwire. Super Elastic
- 3) 0.018” NiTi archwire. Super Elastic
- 4) 0.017” x 0.025” NiTi. Super Elastic
- 5) 0.018” x 0.025” NiTi. Super Elastic

Phase 2. Work

At this stage, anterior upper interproximal stripping was performed to correct the mild crowding and improve overjet. Flexicorticotomy was performed to achieve the displacement of teeth 37 and 38 in less time. Absolute anchorage was placed with ortho implant of 8 x 1.7 mm and .022” slot between teeth 34 and 35, conducting mesialization with orthoimplant chain to the power-arm of teeth 37, achieving a mass movement. Stainless steel 0.018” x 0.025” archwire was used. Lower impressions and photographs were also taken one, three, six, nine months and one year later to observe and quantify the mesialization of tooth units

Phase 3. Completion

Coordinated stainless steel archwires of 0.017” x 0.025” mm were placed. Upper Gingivoplasty. Replacement of brackets in teeth 24 and 25.

Phase 4. Retention

RESULTS. The mesialization of second and third lower molars was monitored for a year, taking the distance between the vestibular cusp of tooth 35 and the mesio-vestibular cusp of tooth 37—which was 14 mm—as an initial measurement. In the first month after flexicorticotomy, there was a 1 mm closure; at 3 months it was 3

mm, at 6 months it was 5 mm, at 9 months it was 6 mm, and one year after the procedure the closure between dental pieces reached 8 mm.

DISCUSSION. Orthodontic movement is influenced by increased alveolar bone metabolism and decreased bone density. Therefore, the bone turnover rate determines the quantity and quality of movements. High bone turnover significantly increases the rate of dental movement.^{13,22-24,27,28} For this reason, flexicorticotomy seeks to modify the cortical layer of alveolar bone with minimal alteration of the spongy or spinal bone, influencing the bone turnover rate, significantly increasing the number of osteoclasts, which are known to be responsible for the removal of bone on the pressure side of the applied force, and thus accelerate the orthodontic movement.^{1,3,25,29-31} The regional acceleratory phenomenon described by several authors (Hiaji, 2000, Frost, 1989 and Wilcko, 2009) has been proven over the years, offering insights into bone histology and physiology of the orthodontic movement. Lee (2006) found that this surgical technique works well due to induction of a transient osteopenia at the lesion site, which triggers exaggerated cellular activity, intensifying the transformation of macrophages into osteoclasts, and thus healing occurs 2 to 10 times faster than a physiological healing, offering a time window to accelerate orthodontic movement, which begins within a few days of the injury, with typical peaks at 1 to 2 months, and usually lasts up to 4 months, but may take up to 6 to 24 months to decrease.^{8,10,11,32,33,34} However, according to Saad's study (2010), RAP remains while the orthodontic movement continues, and once it stops, the same will occur with osteopenia

CONCLUSIONS. The flexicorticotomy approach helped accelerate dental movement, with added benefits to patient as it reduces treatment time. This technique makes difficult movements possible, as it successfully mesializes lower molars, thus eliminating the use of prosthetics. Similarly, the use of flexicorticotomy did not produce root resorptions, nor gingival dehiscences, achieving the full closure of edentulous space in a short period of time

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