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ANTIHYPERTENSIVE DRUG-INDUCED GINGIVAL HYPERPLASIA: A CASE REPORT

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AKADEMİK

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SUMMARY

Calcium channel blockers used in hypertension patients, immunosuppressants used to prevent organ rejection in transplant patients, and anticonvulsants used in epilepsy patients are the three main groups of drugs known to cause drug-induced gingival overgrowth. Drug-induced gingival overgrowth can be controlled through elimination of local factors, mechanical and chemical plaque control, good oral hygiene, and ending medication or replacing it with another drug. This case reveals the pre-treatment and post-treatment clinical status of a patient who was admitted to our clinic with gingival overgrowth complaint due to the use of amlodipine for a long time due to hypertension. In this case, adequate improvement in the gingival tissue was achieved by surgical procedures conducted on the overgrown gingival tissues and careful plaque control.

Key words: *Gingival overgrowth, calcium-channel blockers, antihypertensive drugs.*

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ANTİHİPERTANSİF İLACA BAĞLI DİŞETİ HİPERPLAZİSİ: BİR OLGU SUNUMU

ÖZ

Hipertansiyon hastalarında kullanılan kalsiyum kanal blokerler, organ nakli olan hastalarda organ reddini önlemek için kullanılan immunsupresifler ve epilepsi hastalarında kullanılan antikonvülsanlar; ilaca bağlı diş eti büyümesine yol açtığı bilinen üç ana ilaç grubudur. İlaça bağlı dişeti büyümeleri, lokal etkenlerin ortadan kaldırılması, mekanik ve kimyasal olarak plak kontrolü, iyi bir oral hijyen, ilacı kesme ya da başka bir ilaçla değiştirme ile kontrol altına alınabilir. Bu olgu, hipertansiyon nedeni ile uzun süre amlodipin kullanımı sonucu dişeti büyüme şikâyetiyle kliniğimize başvuran bir hastanın tedavi öncesi ve sonrası klinik durumunu ortaya koymaktadır. Sunulan vakada aşırı büyüyen dişeti dokularına yapılan cerrahi işlem ve dikkatli plak kontrolü ile dişeti dokusunda yeterli ölçüde iyileşme sağlanmıştır.

Anahtar Kelimeler: *Gingival büyümeleri, kalsiyum-kanal blokerleri, antihipertansif ilaçlar.*

INTRODUCTION

Although gingival overgrowth depends on many etiological factors,

the primary factor is reported to be the dental plaque. Drugs, age, gender, local factors and genetic factors are other factors that may affect this condition.¹ It was observed that dental plaque causes the development of gingival overgrowth, moreover, regular plaque control and oral hygiene decrease or prevent the formation of gingival overgrowth.²

Calcium channel blockers have been used since 1978 to treat postmiocardial syndrome, angina pectoris and hypertension. They can be chemically classified as phenylalkylamine derivatives (verapamil), dihydropyridines (nifedipine, isradipine and amlodipine), and benzothiazepine derivatives (diltiazem).³ The gingival overgrowth related to calcium channel blockers (nifedipine) was firstly reported by Ramon et al., in 1984.⁴ In case studies to date, it has been reported that gingival overgrowth is associated with five drugs involved in calcium channel blockers. These drugs are amlodipine⁵, felodipine⁶, diltiazem⁷, nitrendipine⁸ and verapamil⁹. Amlodipine is a long-acting calcium channel blocker. It provides vasodilation in coronary and peripheral arteries by reducing

myocardial contraction and oxygen requirement.³ It was firstly shown in 1994 by Seymour et al., to cause excessive gingival overgrowth. Although nifedipine is known to trigger gingival overgrowth in high prevalence; amlodipine has also been frequently reported as one of the potential etiological causes of gingival overgrowth.⁵

Today, the treatment of drug-induced gingival overgrowth cases are performed through initial treatment (tooth surface cleaning and root surface flattening) according to the severity and fibrotic status of the growth, oral hygiene training with periodontal flap, gingivectomy operations, conventional, electro-surgery and dental laser methods.¹⁰

In this case, clinical features and treatment of gingival overgrowth of a patient are presented who has been using amlodipine, one of the drugs used in the treatment of hypertension, for 5 years.

CASE REPORT

The 47-year-old female patient was admitted to Adıyaman University Faculty of Dentistry, Department of Periodontology due to bad breath, gingival overgrowth and bleeding complaints. It was learned from the medical history of the patient that she

had been suffering from hypertension for 5 years, and therefore used amlodipine (Norvasc 10 mg tablet, Pfizer, Istanbul).

The patient's clinical examination showed she had a full-mouth fixed restoration. It was detected that the patient had a very poor oral hygiene, common supra and subgingival calculus and severe, generalized, dark-red-colored, painless, and lobular gingival overgrowth in the vestibule area of the maksilla and mandibula. The gums were determined to be hyperemic with bleeding on probing (Figure 1).

As a result of the medical consultation, it was learned that the patient did not have any risk in terms of periodontal initial treatment and surgical procedures to be performed and the patient's medication was replaced with an appropriate medication. The patient was given detailed information about the treatments and a signed consent form was taken from her.

The patient was referred to the Department of Prosthodontics, Faculty of Dentistry, Adıyaman University for the removal of the prosthetics. After the removal of the prosthetics, oral hygiene training was given, and subsequently, periodontal initial treatment (scaling and root planing) was performed (Figure 2). 2

months later, the patient underwent gingivectomy and gingivoplasty, and a periodontal pat was placed in the operation area. After one week, periodontal pat was taken and the operation area was washed with saline 0.9% NaCl. The patient was called back for a follow-up 10 days later (Figure 3). Gingival overgrowth treatment of the patient was completed and she was prepared for prosthetic treatment. Following the recovery period, oral rehabilitation of the patient was ensured (Figure 4).

DISCUSSION

Gingival overgrowth is a common clinical finding among gingival diseases. It is an important periodontal problem both in terms of forming a suitable area for microbial dental plaque and in terms of its non-aesthetic appearance.

It is not known exactly by which mechanism the drugs that cause gingival hyperplasia create gingival overgrowth. Clinically, drug-induced gingival overgrowths start from the interdental region mostly 1-3 months after the use of the mentioned drugs. Although it is seen in both anterior and posterior regions, it has been observed mostly in the lower and upper anterior regions and areas where inflammation

is intense. No gingival overgrowth was observed in toothless areas.¹¹

In a study on dogs conducted by Thomason et al., 8.5% gingival overgrowth was observed as a result of amlodipine use and gingival overgrowth began to decline at the first 2 weeks following discontinuation of the medication, completely disappearing within 6 months.¹²

Amlodipine, a calcium channel blocker, causes less growth compared to nifedipine. However, none of the anti-hypertensive drugs other than calcium channel blockers are known to cause gingival overgrowth. Therefore, the initial treatment, if possible, should be replacing the patient's medication with another drug that does not cause overgrowth.¹⁴ With this treatment approach, gingival lesions can be healed within 1-8 weeks. However, most of the patients did not respond to this treatment method. Professional debridement has been efficient on some patients, along with scaling and root planning. Although non-surgical treatment benefits, gingival overgrowth should be removed surgically in many patients due to aesthetic and functional reasons.

In our case, subsequent to the consultation with the patient's doctor, the medication was replaced with an alternative drug, and oral hygiene

education was given together with non-surgical periodontal treatment; however, since the gingival overgrowth could not be stopped, it was surgically removed, and thus, the gum was prepared for prosthetic treatment.

CONCLUSION

The use of drugs in treatment of chronic illnesses that are causing gingival overgrowth is increasing. In patients with drug-induced gingival overgrowth, treatment is performed by replacing the drug if possible, removing local inflammatory factors such as bacterial plaque and calculus. When these treatment options are inadequate, surgery is recommended but post-surgery recurrence rates are high. Further studies are needed to fully understand the pathogenesis of gingival overgrowth and to regulate models that prevent gingival overgrowth.

Conflict of interest

There are no financial supporters of the study and the authors do not have any conflict of interest.

REFERENCES

1. Seymour RA, Ellis JS, Thomason JM. Risk Factors for Drug-Induced

Gingival Overgrowth. *J. Clin Periodontol*, 2000;27:217-223.

2. Sinha A, Oswal S, Shivamurthy R. Amlodipine Induced Gingival Overgrowth: A Case Report. *Int J. Case Rep Images*, 2014;5:509-512.

3. Hallmon WW, Rossmann JA. The Role of Drugs in the Pathogenesis of Gingival Overgrowth. A Collective Review of Current Concepts. *Periodontol*, 2000 1999;21:176-196.

4. Ramon Y, Behar S, Kishon Y, Engelberg IS. Gingival Hyperplasia Caused by Nifedipine-A Preliminary Report. *Int J. Cardiol*, 1984;5:195-206.

5. Seymour RA, Ellis JS, Thomason JM, Monkman S, Idle JR. Amlodipine-Induced Gingival Overgrowth. *J. Clin Periodontol*, 1994;21:281-283.

6. Lombardi T, Fiore-Donno G, Belser U, Di Felice R. Felodipine-Induced Gingival Hyperplasia: A Clinical and Histologic Study. *J. Oral Pathol Med*, 1991;20:89-92.

7. Bowman JM, Levy BA, Grubb RV. Gingival Overgrowth Induced by Diltiazem. A Case Report. *Oral Surg Oral Med Oral Pathol*, 1988;65:183-185.

8. Brown RS, Sein P, Corio R, Bottomley WK. Nitrendipine-Induced Gingival Hyperplasia. First Case

Report. *Oral Surg Oral Med Oral Pathol*, 1990;70:593-596.

9. Mehta AV, Chidambaram B, O'Riordan AC. Verapamil-Induced Gingival Hyperplasia in Children. *Am Heart J.*, 1992;124:535-536.

10. Livada R, Shiloah J. Calcium Channel Blocker-induced Gingival Enlargement. *Journal of Human Hypertension*, 2014;28:10–14.

11. Ciantar M. Nifedipine-Induced Gingival Overgrowth: Remission Following Non-surgical Therapy. *Dent Update*, 1996;23:374-377.

12. Thomason JD, Fallaw TL, Carmichael KP, Radlinsky MA, Calvert CA. Gingival Hyperplasia Associated With the Administration of Amlodipine to Dogs With Degenerative Valvular Disease (2004-2008). *J. Vet Intern Med*, 2009;23:39-42.

13. Harel-Raviv M, Eckler M, Lalani K, Gornitsky M. Nifedipine Induced Gingival Hyperplasia: A Comprehensive Review and Analysis. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*, 1995;79:715-722.

Figure 1. Image of the patient's gum condition before treatment

Figure 2. The patient's prostheses were removed and the first image after the initial treatment

Figure 3. Image of the 10th day after gingivectomy and gingivoplasty

Figure 4. Image of the patient after treatment

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PROSTHETIC REHABILITATION OF ISOLATED OLIGODONTIC PATIENT WITH INTERDISCIPLINARY APPROACH: A CASE REPORT

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ABSTRACT

Oligodontia is the permanent deficiency of six or more teeth, excluding third molar teeth. Isolated oligodontia is generally referred to as "syndrome-free oligodontia"; different from syndrome, it only causes congenital tooth deficiency in patients. In the therapy planning of oligodontia patients; the patient's age, incompleting and condition of missing teeth, the condition of the supporting tissues, occlusion and interocclusal distance should be evaluated. The purpose of this case report is to present the interdisciplinary treatment and clinical follow-up of a 5-year-old patient with isolated oligodontia.

Keywords: *Agenesis, child prosthesis, dental anomaly, oligodontia, tooth.*

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İZOLE OLİGODONTİ HASTASININ İNTERDİSİPLİNER YAKLAŞIMLA PROTETİK REHABİLİTASYONU: VAKA RAPORU

ÖZ

Oligodonti; 3.büyük azı dişleri hariç altı veya daha fazla dişin kalıcı eksikliğidir. İzole oligodonti ise genellikle ‘sendromsuz oligodonti’ diye adlandırılır; sendromdan farklı olarak hastalarda yalnızca konjenital diş eksikliğine yol açar. Oligodonti hastalarının tedavi planlamasında; hastanın yaşı, eksik diş sayısı ve durumu, destek dokuların durumu, okluzyon ve interokluzal mesafe değerlendirilmelidir. Bu olgu sunumunun amacı; izole oligodonti tanısı konulmuş 5 yaşındaki hastanın interdisipliner yaklaşımla tedavisinin ve klinik takibinin sunulmasıdır.

Anahtar Kelimeler: Agenezis, çocuk protezi, dental anomali, oligodonti, diş

INTRODUCTION

Congenital tooth deficiency (tooth aplasia, tooth agenesis) is the most general craniofacial anomaly which means the number of teeth is absent due to the disorders or gene mutations that occur during odontogenesis.¹ Congenital tooth deficiency is examined in three parts as hypodontia,

oligodontia and anadontia. Hypodontia is the deficiency of less than six permanent teeth excluding third molars, while oligodontia (severe hypodontia) is the deficiency of six or more permanent teeth excluding third molars. Anadontia is the most severe condition and the deficiency of all teeth.^{2,3} Congenital tooth deficiency can occur in patients who have Cleft Lip-Palate, Ectodermal Dysplasia, Incontinentia pigmentia, Nance-Horan Syndrome, Down Syndrome, Rieger Syndrome, Wolf-Hirschhorn Syndrome, Van Der Woude Syndrome, Hemifacial Microsomia with involvement of the skin, nails, eyes, ears and skeletal system.⁴

The Oligodontia arises from complex interplaying among genetic, epigenetic and environmental elements in the protracted period of dental improving.¹ In the studies the prevalence of oligodontia in permanent teeth was reported as % 0.1-0.2⁵ or % 0.08-0.016.⁴ “Familial isolated oligodontia” is commonly known as “syndrome-free oligodontia” and results in a varying number of congenital primary and permanent tooth deficiency in patients.⁶ Familial isolated oligodontia

has Mendelian dominant or autosomal recessive transition and its prevalence is higher in individuals with the hereditary familial predisposition than the general population. In genetic studies; 'AXIN2, MSX1, PAX9, EDA, EDAR' genes are determined to be associated with this anomaly.⁷ The local etiological causes of oligodontia are physical obstruction or deterioration of the dental lamina, functional anomalies in the dental epithelium, failure in the formation of mesenchyme⁸, radiation, hormonal and metabolic factors, trauma, osteomyelitis, displacement of permanent tooth germ during primary tooth extraction.⁹

Oligodontia can have dramatic effects on the child's oral health and quality of life. In the treatment of the disease early diagnosis is important to improve function, phonation, growth-development, aesthetics and to reduce the psychosocial effects of anomaly in a paediatric patient. Optimal treatment should be conducted by an interdisciplinary team which includes paediatric dentist, orthodontist, maxillofacial surgeon and prosthodontist. The approach of paediatric dentists to congenital tooth deficiency should be in the form of gaining lost functions with prosthetic rehabilitation and preventive applications.¹⁰ Prosthetic rehabilitation

options in the treatment of patients with oligodontia are removable partial dentures, implant, fixed and adhesive partial dentures. However, pediatric patient's being in the period of growth and development limits implant, fixed and adhesive partial denture alternatives.¹¹

In this case report, it is aimed to present the interdisciplinary treatment and clinical follow-up of a 5-year-old patient with isolated oligodontia.

CASE REPORT

A 5-year-old male patient applied to the Kahramanmaraş Sütçü İmam University, Faculty of Dentistry, Department of Pedodontics due to chewing, aesthetic and psychological problems in consequence of tooth deficiency. In medical history taking; it was learned that the patient did not have any systemic or diagnosed genetic disorders. No family history of radiation exposure, drug use, trauma during pregnancy or consanguineous marriage was reported. It was learned that the patient's two siblings did not have a tooth deficiency. The patient was highly compatible and was "definitely positive" according to the Frankel's Behavior Rating Scale.¹²

In the extraoral examination of the patient, no face asymmetry was

detected. Due to oligodontia, maxillary and mandibular retrognathism and decrease in vertical dimension were observed. No anomaly was detected in the hands, feet, nails, eyes, skin and skeletal system. In the intraoral examination; #16, 26, 36 and 46 were determined to be erupted before the normal eruption time and placed in the mouth, however, digital panoramic radiography revealed presence of 8 unerupted permanent teeth germs (15, 25, 31, 32, 35, 41, 42, 45) (Figure 1). While the size, shape and color anomaly was not observed at the erupted teeth, the root development of the teeth was found to be insufficient in the radiographic examination. While the jaws were in centric occlusion, deep over-bite and knife-edge alveolar ridges were observed in the incisors (Figure 2).

In the first examination, topical fluoride therapy (Sultan, USA) was applied to the patient and it was planned to make upper and lower removable child prosthesis. At the next appointment, the study model was obtained from the first alginate impression (perforated metal tray, Alginate; 3M, St. Paul, MN, USA). The second impression was taken with personal spoons prepared in the study model. Vertical dimension was determined, denture base and wax try-

in were prepared. In the clinical and radiographic examination, #11,21 were expected to be erupted soon, therefore the alveolar crest area of these teeth was left empty. The occlusal relations of the acrylic denture, which was completed following the tooth positions were checked. The patient and his family were taught how to use the dentures and then denture was delivered (Figure 3). The patient's family was directed to orthodontic treatment and speech therapy. Follow-up appointments were scheduled at the end of 1 week, 1, 3, 6 months. In the 3rd and 6th month follow ups, it was observed that 11 and 21 erupted. It was learned that the patient was satisfied with her removable partial dentures and the problems he suffered due to the lack of teeth decreased to a minimum (Figure 4,5 and 6). The patient is under regular follow-up in our clinic.

DISCUSSION

Oligodontia can be seen separately as a phenotypic change or with a syndrome in individuals. "Familial isolated oligodontia" appears as a deficiency of primary and permanent teeth in individuals with hereditary familial predisposition regardless of syndrome.⁷ In this case report, the interdisciplinary treatment of a 5-year-old male patient diagnosed with

isolated oligodontia was reported. As a result of the intraoral and radiographic examination of the patient, multiple teeth deficiency was detected; however, since no anomaly was observed in the hand, foot, nail, eye, skin and skeletal system, the diagnosis of “familial isolated oligodontia” was made. The Oligodontia usually manifests itself in the period of permanent dentition and the diagnosis is usually made by clinical and radiographic examination following the delay in eruption of permanent teeth at the age of 6-12 years.¹³ In this anomaly; differences in dental morphology such as over-bite, cross-bite, inclusions in maxillary incisors, increase in free-way space, attrition, ectopic eruption, multiple diastema, rotation in teeth, microdontia and conical shape in incisors and canines can be observed. In addition, characteristic growth and facial appearance changes such as maxillary retrognathism and hypoplasia, mandibular retrognathism, decreased vertical dimension and lower facial height, transversal and vertical decrease in alveolar crest height, and decrease in the labiomental angle are encountered in the patients' maxillofacial skeletal system.⁵

In the therapy planning of patients diagnosed with oligodontia; the age of

the patient, the number of missing teeth, the condition of the supporting tissues, occlusion and interocclusal distance should be evaluated.¹⁴ In the reported case, treatment plan, consisting of 2 stages, was made with an interdisciplinary team of paediatric dentists, orthodontics and prosthodontist. In the first stage, upper and lower removable child prosthesis were made and the patient was rehabilitated in terms of function, phonetics and aesthetics. In addition, prosthetic rehabilitation provided improvement in over-bite, low vertical dimension and position of the tongue. In the second stage, tongue and speech disorders were planned with speech therapist to be corrected. In addition to the positive effects of all these treatments on the growth and development of the patient, it was aimed to achieve a complete physical and emotional health by providing psychological and aesthetic benefits. According to the Frankel's Behavior Rating Scale, it is gratifying that the patient, who is 'definitely positive', accepts and uses the child prosthesis. After increasing the chewing habit with food such as meat, vegetables and cheese, it was observed that our patient gained weight and get longer at the control of 1,3 and 6 months after treatment. In addition, it was learned that our patient pronounced letters

such as 'f, v' more accurately, his self-confidence was increased, and his social relationship with friends and school straightened.

In congenital tooth deficiency, beside child prosthesis; implant, adhesive and fixed partial dentures are other treatment options.¹¹ In some cases, implant supported dentures may be a good option in the long term. The 'ankylosed' implant applied to pediatric patients in the growth-development period will remain in infraocclusion in the coming years. Peker et al.¹⁵ reported the patient who had 22 permanent and 10 primary teeth deficiency, rehabilitated with child prosthesis. On the other hand, implant application was claimed to be successful in a 3-year-old patient who was diagnosed with anadontia and had adequate alveolar bone support.¹⁶ In the patient reported in this case; 8 permanent and 20 primary tooth deficiencies were detected and the problems experienced by the patient due to tooth deficiency were rehabilitated with child prosthesis and speech therapy. Preferring child prosthesis in oligodontia patients is advantageous because it does not require invasive procedures, is easy and low cost, supports hard and soft tissues and allows modifications in acrylic structure.¹⁷ In this case, it is

planned to make modifications in the child prosthesis of the patient in accordance with the growth and development in the dental and surrounding tissues.

CONCLUSIONS

Oligodontia has important effects on the patient's oral health and grade of life. Following the early diagnosis, an interdisciplinary treatment protocol should be carried out in line with the growth and development in the dental and surrounding tissues. Child prosthesis provide an improvement in the patient's functional, phonetic and aesthetic rehabilitation, as well as over-bite, low vertical dimension, and the position of the tongue. Treatments provide psychological and aesthetic benefits in addition to create positive effects of patient's growth and development. Genetic studies in individuals affected by this anomaly may help to better understand the underlying factors involved in the pathogenesis of the disease.

Conflict of Interest

The authors claimed that there is no conflict of interest

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REFERENCES

1. Stimson JM, Siverson JE, Hlava GL. Features of oligodontia in three generations. *J. Clin Pediatr Dent*, 1997;21:269-275.
2. Shimizu T, Maeda T. Prevalence and genetic basis of tooth agenesis. *Jpn Dent Sci Rev*, 2009;45:52-8.
3. Vastardis H. The genetic of human tooth agenesis: new discoveries for understanding dental anomalies. *Am J. Orthod Dentofac Orthop*, 2000;117:650-6.
4. Singer SL, Henry PJ, Lander ID. A treatment planning classification for oligodontia. *Int J Prosthodont*, 2010;23:99-106.
5. Worsaae N, Jensen BN, Holm B, Holsko J. Treatment of severe hypodontia-oligodontia--an interdisciplinary concept. *Int J Oral Maxillofac Surg*, 2007;36:473-480.
6. Nguyen-Nielsen M, Skovbo S, Svaneby D, Pedersen L, Fryzek J. The prevalence of X-linked hypohidrotic ectodermal dysplasia (XLHED) in Denmark, 1995-2010. *Eur J Med Genet*, 2013;56:236-242.
7. Cobourne MT. "Familial human hypodontia—is it all in the genes?" *British Dental Journal*, vol. 203, no. 4, pp. 2007;203-208.
8. Meon R. Hypodontia of the primary and permanent dentition. *J Clin Paed Dent*, 1992;16:121-123.
9. Nunn JH, Carter NE, Gillgrass TJ, Hobson RS, Jepson NJ, Meechan JG, Nohl FS. The interdisciplinary management of hypodontia: background and role of paediatric dentistry. *Br Dent J*, 2003;194:245-51.
10. Worsaae N, Jensen BN, Holm B, Holsko J. Treatment of severe hypodontia-oligodontia - an interdisciplinary concept. *Int J Oral Maxillofac Surg*, 2007;36:473-480.
11. Yvonne S, Guess PC, Jung BA. Intermediate rehabilitation with (non)-prep all-ceramic onlays in an

adolescent patient with oligodontia-4 year follow-up. *Int J Paediatr Dent*, 2015;25:462-6.

12. Wein SHY. *Managing the patient and parents in dental practice*. In: Lea&Febiger, editor. *Pediatric Dentistry*. Philadelphia; 1988:164.

13. Schalk-van der Weide Y, Beemer FA, Faber JA, Bosman F. Symptomatology of patients with oligodontia. *J Oral Rehabil*, 1994;21:247-261.

14. Rolling S, Poulsen S. Oligodontia in Danish school children. *Acta Odontol Scan*, 2001;59:111-2.

15. Peker MS, Türker ŞB, Çapan B, Akyüz S, Biren S. İzole Çoklu Diş Eksikliği Olgusuna Multidisipliner Yaklaşım Bir Yıllık Takip. *Atatürk Üniv Diş Hek Fak Derg*. 2015;25:369-375.

16. Guckes AD, McCarthy GR, Brahim J. Use of endosseous implants in a 3-year-old child with ectodermal dysplasi:case report and 5-year follow-up. *Ped Dent*, 1997;19:282-285.

17. Robinson S, Chan M. New teeth form old: treatment options for retained primary teeth. *Br Dent J*, 2009;207:315-320.

Figure 1: Panoramic digital radiography of the isolated oligodontia patient

Figure 2A, B: Intraoral view of the upper and lower jaw

Figure 3A, B: The upper and lower prosthesis rehabilitation of the patient

Figure 4: Frontal view of the prosthesis rehabilitation after 1 months

Figure 5: Frontal view of the prosthesis rehabilitation after 3 months

Figure 6: Frontal view of the prosthesis rehabilitation after 6 months