СЛУЧАЙ ИЗ ПРАКТИКИ

RADIOLOGICAL INSIGHTS INTO INTRAOSSEOUS COMPOUND ODONTOMAS THROUGH 3D CBCT IMAGING

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The intraosseous compound odontoma is a hamartoma which results in conglomerates of calcified masses resembling multiple tooth-like structures. Diagnosing this hamartomatous malformation is challenging since it occurs beneath the gingival margin. Cone-beam computed tomography helps to make a radiographic diagnose and visualize such compound odontoma. Cone-beam computed tomography helps identify and plan treatment for such concrescence of impacted supplementary teeth to prevent postoperative surgical complications such as maxillary tuberosity or oroantral fistula fracture.

Purpose. To present and detect a case of compound odontoma by CBCT (cone-beam computed tomography).

Materials and Methods. The article presents an incidental radiographic description of compound odontomas in a 21-year-old female diagnosed using cone-beam computed tomography. CBCT sxial and sagittal section is presented, revealing the compound odontome's exact position within the mandibular alveolar bone. The clinical significance of CBCT in radiographic diagnosis of compound odontoma was described.

Results. CBCT is essential and helps identify the exact three-dimensional location of rare pathologies such as compound odontome.

Discussion. CBCT helps precisely locate the position of compound odontoma, which can remain silent and asymptomatic within the jaw bone. The use of CBCT preoperatively helps to locate complex supernumerary teeth and to plan surgical treatment.

Conclusion. Cone-beam computed tomography is essential for the identification and exact three-dimensional location of impacted compound odontoma. Dentists must have a sound knowledge of rare developmental tooth anomalies such as compound odontoma, which are incidentally detected on radiographic evaluation.

Keywords: compound odontoma, intraosseous, mandible, cone-beam computed tomography.

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ЛУЧЕВАЯ ДИАГНОСТИКА ВНУТРИКОСТНЫХ СМЕШАННЫХ ОДОНТОМ ПРИ ПОМОЩИ КЛКТ

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Внутрикостная сложная смешанная одонтома является гамартомой, которая представляет собой кальцинированные конгломераты, напоминающие множественные зубоподобные структуры. Диагностика данного типа гамартомы сложна, поскольку она располагается под десной. Конусно-лучевая компьютерная томография (КЛКТ) применяется с целью рентгенологической диагностики таких сложных смешанных одонтом. Конусно-лучевая компьютерная томография помогает выявить и определить план лечения при сращении ретенированных добавочных зубов для предотвращения таких послеоперационных осложнений, как травматические изменения в области бугра верхней челюсти или ороантрального соустья.

Цель исследования. Описать и проанализировать случай сложной смешанной одонтомы с помощью конусно-лучевой компьютерной томографии.

Материалы и методы. В статье представлено рентгенологическое описание случайной находки, диагностированной с помощью конусно-лучевой компьютерной томографии – сложной смешанной одонтомы у 21-летней женщины. Аксиальные и сагиттальные срезы при КЛКТ продемонстрировали точное положение смешанной одонтомы в альвеолярном отростке нижней челюсти. Описано клиническое значение КЛКТ в рентгенологической диагностике сложных одонтом.

Результаты. КЛКТ крайне важна и помогает определить точное трёхмерное расположение таких редких патологий, как сложная смешанная одонтома.

Обсуждение. Проведение КЛКТ помогает точно определить местоположение сложной одонтомы, которая может оставаться бессимптомной и локализоваться внутри челюсти. Использование КЛКТ в предоперационном периоде помогает обнаружить сложные сверхкомплектные зубы и спланировать хирургическое лечение.

Заключение. Конусно-лучевая компьютерная томография крайне важна для выявления и определения точного трёхмерного расположения одонтом. Стоматологи должны обладать глубокими знаниями о таких редких аномалиях развития зубов, как сложная смешанная одонтома, которые могут быть случайно обнаружены при рентгенологическом исследовании.

Ключевые слова: сложная одонтома, внутрикостная локализация, нижняя челюсть, конусно-лучевая компьютерная томография.

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Introduction.

Odontoma is a hamartomatous malformation containing hard and soft dental structures such as enamel, dentin, cementum, and pulp in varying proportions [1]. The odontoma contains non-resembling tooth-like structures (particulate) and tooth-like (denticles). Most odontomas occur in the second decade of life [1]. Odontoma shows no gender predilection. Odontomas happen in both primary and permanent dentition. Compound are twice as common as complex types [1]. Rarely, a compound odontoma erupts into the oral cavity. Compound odontomas usually occur in the anterior region, and complex odontomas happen in the mandibular mandibular region's first or second molar regions. complex odontomas have irregular calcified masses.Complex odontomas have tooth-like denticles, usually multiple [1]. The borders of odontoma are smooth, well-defined or irregular. They have a soft-tissue capsule. Odontoma can interfere with or impede the innate physiological eruption of teeth. Cause abnormalities such as impaction, cystic degeneration, pathological migration of teeth resulting in increased interdental spacing and diastema, and malformation of adjacent teeth. Large-sized odontomas can cause cortical expansion but with intact boundary in the maxilla or mandible alveolar bone or diplopia if it invades the orbital floor. It is a non-neoplastic or an-aggressive odontogenic tumour [1, 2].

A compound odontoma resembles a tooth. Complex odontomas lack a tooth-like structure and consist of an uneven calcified mass known as denticles [2].

When an individual complains about a lost tooth, odontomas are usually detected as an incidental finding during regular radiography testing [3].

The clinical features depend on the size and location of the odontoma [3]. When an odontoma occurs intraosseous deep within the alveolar bone, it retards the eruption leading to impacted teeth. It also leads to pathological migration by deflection of the position of the teeth [3]. Crowding or spacing between the teeth leads to malocclusion [3]. When it occurs near the tooth, it can cause tooth abnormalities, such as impacted teeth and pathologically migrated or deflected teeth due to odontomas, which are prone to cystic degeneration and bone resorption due to pressure effects from growing cysts. It also may cause devitality of the adjacent tooth, leading to discomfort due to pain or any intraoral swelling of the gingiva or jaw bone, resulting in loss of facial symmetry. An odontoma can remain silent and asymptomatic in the jaws for years.

Extragnathic odontomas are those that occur near the mastoid region of the ear. They do not produce clinical signs or symptoms such as pain or facial asymmetry caused by cortical expansion. Odontoma can occasionally invade the orbital floor and produce temporary diplopia. Sometimes, they occur near the posterior alveolar bone and affect the maxillary sinus; it produces symptoms and signs of chronic maxillary sinusitis, such as a feeling of heaviness or nose stuffiness resulting in nasal stuffiness, creating diagnostic difficulties [3].

Materials and methods.

A clinical case of a 21-year-old female who presented to our Department of Oral Medicine and Radiology for a routine dental check-up. Radiographic screening by cone-beam computed tomography revealed an incidental finding of intraosseous compound odontoma within the mandibular alveolar bone between her left mandibular lateral incisor and cuspid region.

Results.

A 21-year-old female reported for a radiological evaluation of her dentition for occasional discomfort only while chewing her foods. Radiographic evaluation by Cone beam computed tomography revealed multiple small tooth-like radiopacities located intraosseously between the left mandibular cuspid and incisor region (Fig. 1)

The radiographic differential diagnoses are cementoblastoma, impacted supernumerary teeth, ossifying fibromas, and dense bone island.

Complex odontomas are differentiated from ossifying fibroma by more radiopaque and occur in much younger patients than ossifying fibroma. Osseous dysplastic lesions are more solitary, and odontomas have a well-defined sclerotic border. Dense bone islands do not have a soft-tissue capsule, unlike in odontomas – cementoblastomas usually obscure the apex of the root outline. Odontomas are hamartomatous benign odontogenic tumours with slow or sluggish growth potential with minimal aggressive behaviour [16]. A final diagnosis was intraosseous compound odontoma.

Discussion.

The synonyms for compound odontoma include Calcified mixed odontoma, cystic odontoma, and odontogenic hamartoma. According to the 2022 World Health Organisation classification, 241 of 544 (44.3%) odontogenic tumours were confirmed among the Chilean population [4]. A clinicopathological examination of 1089 cases (malignant, benign (10,1079; 0.9,99.1%) among evaluation of odontogenic tumours was performed at Tokyo Dental Col-

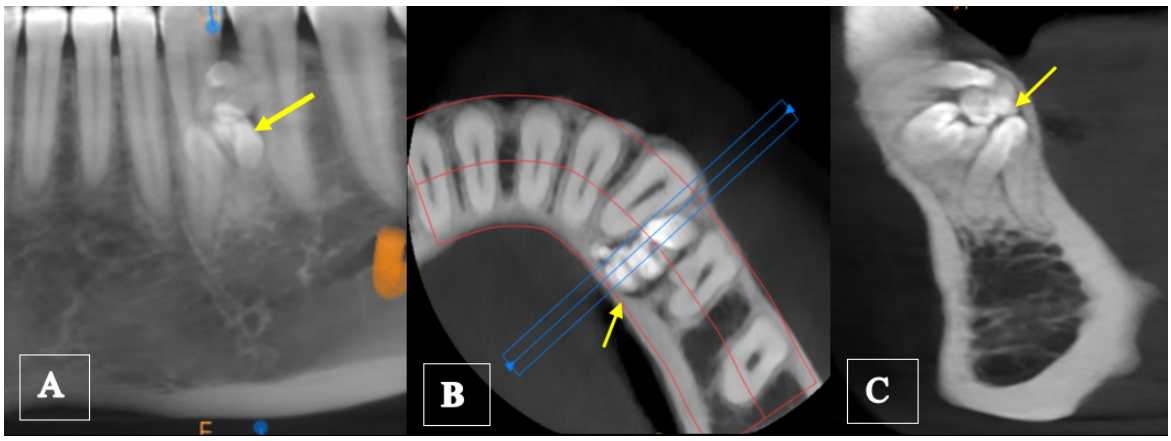

Fig. 1 (Рис. 1)

Fig. 1. CBCT.

A – panoramic reconstruction, multiple tooth-like structures (yellow arrow).

B – axial section, multiple radiopaque conglomerate masses (yellow arrow).

C – sagittal section, multiple small tooth-like structures located intraosseously within the mandible between the left mandibular cuspid and lateral-incisor region (yellow arrow).

Рис. 1. КЛКТ.

А –панорамная реконструкция, множественные зубоподобные образования (желтая стрелка).

В –аксиальный срез, конгломерат из множественных рентгеноконтрастных образований (желтая стрелка).

С – сагиттальный срез, множественные мелкие зубоподобные образования, расположенные внутри костной ткани нижней челюсти между левым нижним клыком и латеральным резцом (желтая стрелка). .

lege Hospital between 1975 and 2020. According to the 2017 World Health Organisation Classification of Head and Neck Tumours, the most prevalent tumour type found were odontoma (42.5 per cent) [5]. LHX8 and DLX3 homeoboxes have been identified in odontogenic lesions [6]. Activation of the WNT/β-catenin pathway in foetal dental stem cells encoding SOX2 may contribute to odontoma aetiology [7]. Arbitrary entangled dental lamina rests in the gingiva, which may be the source of peripheral odontoma formation and development [7]. The location and types of odontoma are enumerated (Table 1).

Compound odontomas have radiopaque structures with irregular outlines and discrepancies in size and contour called denticles. Odontomas exhibit a "radiolucent halo" surrounding the radiopacity, which correlates to the thin capsule of connective tissue encircling the odontoma, giving it a "doughnut-like radiolucent appearance" [3]. Odontomas are similar to mesiodens but distinguished by a radiolucent pulp canal in mesiodens, which is absent in odontomas. It is consequently crucial to properly evaluate such odontomas using radiography. Thoma and Goldman classified odontomas in 1946: geminated composite odontomas, in which fusion (union of two or more adjacent teeth occur); compound composite odontomas reveal multiple discrete small rudimentary tooth-like masses; and Complex composite odontomas display numerous calcified small structures exhibit little similarity to the morphology of teeth-called particulate type. In dilated odontomas such as dens evaginatus, the crown or root region of the tooth is markedly enlarged. Cystic odontomas are generally encased by a fibrous connective tissue capsule [3].

Gravey et al. (2011) described compound odontoma as follows: Denticulo type, which has multiple root and crown-like structures similar to the tooth. Particulate type is not identical to the tooth; denticulate-particulate type is often located in the maxillary canine-incisor region and uncommon areas near the floor of the maxillary sinuses, sub condylar region, and ramus [4,5]. Compound odontomas are hamartomas distinguished by an organized pattern of dental tissues containing cementum, dentin, and pulp tissue in varying quantities [4].

Odontomas are not neoplastic. They are slow-growing and benign, with very sluggish or limited growth potential. They are hamartoma

Table №1. Location and types of odontomas.

Location of odontomas	Types
Peripheral (Extraosseous)	Complex – Gingiva
	Compound – Gingiva
Intraosseous	Complex – alveolar bone-maxilla, mandible
	Compound -maxilla, mandible
Erupted	Complex – Gingiva, Hard palate Compound – Gingiva, Hard palate
Gnathic odontomas	Sub condyle, maxilla, mandible
Extragnathic odontomas	Maxillary sinus, orbital floor, the mastoid region near the ear.
Dilated composite odontoma /Gestant (invaginated) odontomas	Dens-in dente or dens invaginates
Compound Composite odontoma	Odontoma containing both tooth-like (denticulate) and calcified structures
Complex composite odontoma	Odontoma containing both non-tooth-like (particulate) and calcified structures

Compound odontomas are discrete, tiny tooth-like formations that are often encapsulated. They occur in the maxillary cuspid anterior region.

tous lesions that appear in the oral cavity. They are usually detected during a routine radiography examination. Albrecht coined hamartoma in 1904, combining the Greek words hamartion, which refers to a physiological imperfection, and hamartanein, which means "to make an error." Odontomas are classified as hamartomas caused by the proliferation of fully differentiated mesenchymal and epithelial cells that create functioning odontoblasts and ameloblasts. This lesion has a low, insufficient, and limited potential for growth. The key distinctive feature of hamartomas is that they do not infiltrate or penetrate surrounding tissues and halt growing at a certain point in their course. Clinical indicators of odontomas include missing or impacted/unerupted teeth, retained deciduous teeth, swelling surrounding the affected teeth, pain due to inflammation on the gingiva with spacing between the teeth, and, in rare cases, facial asymmetry, TMJ pain, and nasal congestion mimicking maxillary sinusitis [9].

The cause of an odontoma is uncertain. Some attributed its formation to trauma to an underlying primary tooth during tooth development, a gene mutation during tooth formation, an underlying inflammatory process, disordered odontogenesis, odontoblastic hyperreactivity, the persistence of dental lamina cells, and syndromes of hereditary disorders such as Hermann and Gardner syndromes [10]. Routine radiography examinations can detect odontomas at any age and in any site of the maxilla or mandible in relationship to the nasal or maxillary sinus orbital floor. Odontomes do not develop thoroughly once calcified. Odontomas do not have roots or periodontal ligaments. So, they lack eruptive force caused by the physiological apposition of cementum on the roots. Odontomes rarely erupt into the oral cavity. Some remain silent or cause swelling near the gingiva. Odontomas, on the other hand, frequently appear as people age. The alveolar process resorbs significantly, and adaptive expansion of the soft-tissue capsule surrounding the odontoma and the underlying inflammatory process contribute [10, 11].

Compound odontomas typically show as solitary radio-opaque masses detected during routine radiographic examinations. Supernumerary teeth, particularly mesiodens, are frequently found in the anterior maxilla. They can appear clinically as rudimentary conical teeth concerning permanent maxillary central incisors. Marra PM et al. (2021) report that odontomas can cause the permanent teeth beneath them to reincarnate or be displaced [12]. The incisor-canine areas of the maxilla are the most usually reported site (67%), followed by the mandibular posterior sites (33% each) [12].

Gupta M Das D. (2015) reported an unusually large odontoma penetrating the orbital floor, resulting in temporary diplopia and chronic maxillary sinusitis [13].

Compound odontomas also appear near the gingiva. McClure initially reported extragnathic odontoma in 1946. Odontome has also been described in various locations, including the middle ear and tympanum [14].

According to Sun JJ et al. (2004), an extragnathic odontoma in the middle ear can cause ipsilateral hearing loss, addressed with bilateral contralateral auditory signal routing and a hearing aid [15]. In a study by Amailuk P. Grober D. (2008), a 15-year-old Sudanese kid developed an exposed odontoma in the left maxillary lateral incisor region, resulting in dilacerations of the adjacent tooth [16]. Das et al. (2008) found a composite compound odontoma in an unerupted maxillary incisor area of an 11-year-old child [17].

Gokulakrishnan et al. (2010) described a case of odontoma in a 65-year-old woman's mandibular right premolar area, which was surgically removed through sectioning [17]. Namrata C. Gill (2014) reported odontomas in the erupted mandibular primary incisor tooth root region [19]. According to Oliveira EM et al. (2021), Compound Odontoma can form from a calcifying odontogenic cyst that mimics a tooth germ. [20] Odontomas are odontogenic tumours with a lower aggressive activity [20]. Odontomas appear in any part of the maxilla or mandible. Odontomas remain silent or asymptomatic, occasionally causing pain and swelling when secondarily infected or showing cystic changes near the vicinity of affected teeth. They are discovered inadvertently during routine radiographic imaging [21,22].

Depending on their anatomical location, Odontomas can cause massetric, buccal or submassetric area infection, posing a diagnostic challenge [23]. Odontomas require surgical excision if they cause tooth uneruption or deflection, devitalization of adjacent teeth, or infection-induced oedema surrounding the affected tooth [21]. Uninfected odontomas remain silent; Odontomas can be associated with infections like abscesses or undergo cystic degenerative changes such as dentigerous cysts. Odontomas do not erupt once fully matured and calcified. However, they can become exposed to the oral cavity, causing pain and swelling owing to increased pressure on the underlying bone, which leads to resorption and weakening. Surgical excision of odontomas has a favourable prognosis [21]. Routine radiography procedures can detect odontomas at any age and in any part of the maxillary or mandible.

Odontomas have no roots and lack periodontal ligaments; hence, they rarely erupt into the oral cavity. In contrast, odontomas typically arise as people age [21].

The alveolar process has significant resorption, with reactive expansion of the capsule lining the odontoma due to inflammation [21].

The rare growth and development. An odontoma which is erupted is most likely owing to bone remodelling caused by proteases within the dental follicle, which are produced by a reduced enamel epithelium and contribute to the odontoma's eruptive pressures and can only be observed by immunohistochemistry. CBCT is helpful in the diagnosis of intraosseous compound odontoma [23]. Odontomas do not frequently occur in medical practices. Understanding both clinical and radiographic aspects is crucial [23].

When performing a radiographic evaluation, odontomas are frequently discovered as an incidental findings and should be thoroughly examined [24]. Odontomas enlarge in infections, leading to clinical features resembling chronic submandibular space infection with extraoral sinus [25]. In the orthodontic therapy of impacted and retained teeth associated with odontomas, early diagnosis, promptness, an ideal treatment sequence, and a multidisciplinary approach are critical components [26]. Current molecular research has revealed genetic variations primarily related to the BRAFV600E mutation in odontomas [27].

Conclusions.

We conclude that most odontomas are diagnosed only as an incidental finding during a routine radiographic examination. Understanding the radiological features of odontoma is crucial and critical in diagnosis and initiating appropriate treatment of odontoma.

References:

1. Rana V, Srivastava N, Kaushik N etal.: Compound Odontome: A Case Report. Int J Clin Pediatr Dent. 2019, 12:64-67. DOI: 10.5005/jp-journals-10005-1575

2. Silva DR, Shahinian AL: Odontoma malformation and disturbances of eruption subsequent to traumatic dental injuries: A literature review and a case report. Dent Traumatol. 2022, 7:1-7. DOI:10.1111/edt.12728

3. Isola G, Cicciù M, Fiorillo L etal.: Association Between Odontoma and Impacted Teeth. J Craniofac Surg. 2017, 28:755-758. DOI:10.1097/SCS.0000000000003433

4. Escobar E, Gómez-Valenzuela F, Peñafiel C, Ortega-Pinto A. Odontogenic tumours in a Chilean population: a retrospective study of 544 cases based on 2022 WHO classification. Med Oral Patol Oral Cir Bucal. 2023;1;28(6):e596-e606.DOI:

10.4317/medoral.26008.

5. Karthikeya Patil, Sanjay C. J., Meera Theenathayalan, Varusha Sharon Christopher. Complex odontoma manifesting as progressive trismus: a rare presentation. REJR 2025; 15(1):219-225. DOI: 10.21569/2222-7415-2025-15-1-219-225.

6. Kokubun K, Yamamoto K, Nakajima K, Akashi Y, Chujo T, Takano M, Katakura A, Matsuzaka K. Frequency of Odontogenic Tumors: A Single Center Study of 1089 Cases in Japan and Literature Review. Head Neck Pathol. 2022 Jun;16(2):494-502. DOI: 10.1007/s12105-021-01390-w.

7. Hii EPW, Ramanathan A, Pandarathodiyil AK, Wong GR, Sekhar EVS, Binti Talib R, Zaini ZM, Zain RB. Homeobox Genes in Odontogenic Lesions: A Scoping Review. Head Neck Pathol. 2023;17(1):218-232. DOI: 10.1007/s12105-022-01481-2.

8. Xavier GM, Patist AL, Healy C, Pagrut A, Carreno G, Sharpe PT, Martinez-Barbera JP, Thavaraj S, Cobourne MT, Andoniadou CL. Activated WNT signaling in postnatal SOX2-positive dental stem cells can drive odontoma formation. Sci Rep. 2015 ;28; 5:14479. DOI: 10.1038/srep14479.

9. Patil S, Rao RS, Majumdar B. Hamartomas of the oral cavity. J Int Soc Prev Community Dent. 2015;5(5):347-53. DOI: 10.4103/2231-0762.164789.

10. Satish V, Prabhadevi MC, Sharma R: Odontome: A Brief Overview. Int J Clin Pediatr Dent. 2011, 4:177-85. DOI: 10.5005/jp-journals-10005-1106

11. Ban Mohammed Jasim, Majida K. Al-Hashimi, Resha Jameel Abdulsaheb. Comparison of orthopantomography and cone-beam computed tomography data in endodontically treated teeth. REJR 2023; 13(4):16-25. DOI: 10.21569/2222-7415-2023-13-4-16-25.

12. Marra PM, Nucci L, Itro A etal.: Prevalence of retained/transmigrated permanent and persistence of primary teeth associated with odontomas in young children. Eur J Paediatr Dent. 2021, 22:215-218. DOI: 10.23804/ejpd.2021.22.03.7

13. Gupta M, Das D: Extensive complex odontoma in the maxillary sinus pushing 3rd molar near the orbital floor causing transient diplopia and chronic sinusitis: a rare presentation and surgical management. J Maxillofac Oral Surg. 2015, 14:338-40.DOI: 10.1007/s12663-013-0561-0

14. da Silva Rocha OKM, da Silva Barros CC, da Silva LAB etal.: Peripheral compound odontoma: A rare case report and literature review. J Cutan Pathol. 2020, 47:720-724. DOI: 10.1111/cup.13676

15. Sun JJ, Ford LC, Rasgon BM etal.: Odontoma of the Middle Ear: Case Report With 25-Year Follow-up. Arch Otolaryngol Head Neck Surg. 2004, 130:1223-1227.DOI: 10.1001/archotol.130.10.1223

16. Amailuk P, Grubor D, Erupted compound odontoma: case report of a 15-year-old Sudanese boy with a history of traditional dental mutilation. Br Dent J,2008. 12:11-4. DOI:10.1038/bdj.2007.1184

17. Das UM, Viswanath D, Azher U: A compound composite odontoma associated with unerupted permanent incisor: a case report. Int J Clin Pediatr Dent. 2009, 2:50-5. DOI: 10.5005/jp-journals-10005-1030

18. Gokulakrishnan, Singh S, Singh M etal.: A rare case of odontome in a 65-year-old lady. Natl J Maxillofac Surg. 2010, 1:67-70. DOI: 10.4103/0975-5950.69163

19. Namrata C Gill: Renu Yadav, A rare case of complex odontoma associated with the root of an erupted mandibular primary incisor. Indian Journal of Oral Sciences. 2014:95-100. DOI: 10.4103/0976-6944.136854

20. Oliveira EM, Santana LADM, Silva ER etal.: A Calcifying Odontogenic Cyst Associated with Compound Odontoma Mimicking a Tooth Germ. Case Rep Dent. 2021, 28:1-4. DOI: 10.1155/2021/9991772

21. Soluk-Tekkeşin M, Balkan B, Akatay DK, Atalay B. A Rare Case of Peripheral Compound Odontoma and Review of the Literature. Head Neck Pathol. 2022;16(3):913-917. DOI: 10.1007/s12105-022-01421-0.

22. Ćabov T, Fuchs PN, Zulijani A, Ćabov Ercegović L, Marelić S. ODONTOMAS: PEDIATRIC CASE REPORT AND REVIEW OF THE LITERATURE. Acta Clin Croat. 2021;60(1):146-152. DOI: 10.20471/acc.2021.60.01.22.

23. Shetty L, Gangwani K, Kulkarni D etal.: Odontome, Cyst, Impacted Tooth, and Space Infection in a Single Patient: All-in-One Diagnostic Dilemma. Ann Maxillofac Surg. 2018, 8:127-130. DOI: 10.4103/ams.ams_211_17

24. Perumal C, Mohamed A, Singh etal.: Sequestrating Giant Complex Odontoma: A Case Report and Review of the Literature. Journal of Maxillofacial and Oral Surgery. 2013, 10:344-358. DOI: 10.1007/s12663-011-0235-8.

25. Aiello D, Quinzi V, Distefano M, Figliuzzi MM, Scirè Scappuzzo G, Paduano S. Timing and treatment sequence in the management of odontomas associated with impacted teeth: A literature review and report of two cases. Eur J Paediatr Dent. 2022;23(3):217-224. DOI: 10.23804/ejpd.2022.23.03.09.

26. Sánchez-Romero C, Paes de Almeida O, Bologna-Molina R: Mixed odontogenic tumors: A review of the clinicopathological and molecular features and changes in the WHO classification. World J Clin Oncol. 2021, 24:1227-1243. DOI: 10.5306/wjco.v12.i12.1227.