



## Experience in the Training of Dental Students: Clinical Case Study on Hyperdontia

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### Abstract

The aim of this article is to consider the possibility of accessing situated learning in the training of undergraduate dental students, with authentic experiences and activities that facilitate the development of competences that enable cognition and effective coping with the task. In this way, the clinical case study strategy has been part of the didactics that enables the acquisition of specific functions in a clinical environment, the development of competences and an understanding of the culture and values that affect society.

**Keywords:** Didactic strategy; Clinical case study; Competences; Social relevance

### Introduction

Within dentistry we can find various specialties, such as pediatric dentistry, surgery, periodontology, among others. Dentomaxillary pathology is one of them and includes the study of diseases and their symptoms, together with anomalies, variations and syndromes.

There is a developmental anomaly/disorder called hyperdontia, in which there is an increase in the number of teeth. This anomaly occurs in odontogenesis, specifically in the bud stage, where the physiological process is affected specifically in the initiation phase, generating the aforementioned hyperdontia.

This dental anomaly is prevalent from 0.1% to 3.8% in whites and 76% to 86% of the cases are only 1 supernumerary tooth; 95% in the maxillary anterior sector, generally in non-syndromic hyperdontia, with a ratio H:M=2:1 and associated with macrodontia in males.

The clinical case, from Martínez [1] also called a case report, is known everywhere as a type of biochemical publication and is relevant in all areas of health, as mentioned by Román [2] because it is a contribution to education, within the scientific field. Thus, in different studies, such as Villanueva [3], the idea is developed that the study and development of clinical cases increase situated learning, clinical studies facilitate understanding, logical reasoning and also the management of uncertainty.

This learning strategy allows the evaluation of the student's performance and Vega [4] highlights the impact of the strategy because it collaborates with the improvement of different social shortcomings, such as realizing some latent needs in society regarding health in the area in which the activity is developed, clinical case strategy.

Ordoñez [5] mentions that the clinical case study serves as a reliable scientific document to be read and studied by undergraduate students, it is a document that serves as an example for the understanding of content that presents difficulties for comprehension.

In studies on didactic strategies used for university students, the idea of holistic learning is that which incorporates both the competence and ability to perform the task, but also in a relevant, creative and innovative way. The reduction of learning load through instruction is accurate because it must revalue knowledge based on meaningful experience, where the student develops attitude and skill. Where multiple analyses can be generated with respect to what is presented in the clinical case. In other words, between the teacher and the student, educational action is developed through experience translated into the assimilation of knowledge. The exercise carried out by an undergraduate student through the clinical case brings them closer to reality and prepares them to deal with problems through their competences.

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Figure 1: Extraoral Photographs: (Right, Front, Left).



Figure 2: Intra-oral photographs, MIC (right, center, left).

## Case Presentation

Male patient aged 21 years, ASA II, with no personal history of morbidities, no surgical history, with a family history of morbid hypertension. A moderate smoker, he came for assessment due to spontaneous consultation, with the reason for consultation "I have a tooth on the side of my teeth, at the bottom". Data collected: The last visit to the dentist was in 2019 for extraction of a supernumerary tooth without complications. The patient had poor dental hygiene, with an unspecified brushing technique, no flossing, a diet high in carbohydrates, sugars and soft drinks.

With regard to the dental history, we can highlight the extraction of another supernumerary tooth at tooth level 4.4 on the lingual side, bleeding on brushing and bruxism.

Within the segmental examination, a variation in the trajectory of mandibular movement was observed, with corrected deviation to the right and a unilateral left click noise, without pain on palpation or movement. As for lymph node palpation, only the submandibular nodes were palpable, unilaterally, on the right side, less than 1 cm, with a soft, mobile consistency and the presence of discomfort to the touch. The rest of the nodes were not palpable.

With regard to the dental anomaly of the patient, who presented a rudimentary paramolar supernumerary tooth; of a smaller size, molariform and located in the mandibular region, on the lingual side in the area of the premolar teeth, we can highlight the importance and responsibility we have as dentists to recognize and detect pathologies in our patients. This is one of the many examples of how elementary training is, in order to achieve correct care and good dental practice.

### Intraoral examination

Lips unaltered, mucosa of the alveolar ridge, the rudimentary supernumerary tooth is located between teeth 3.4 and 3.5. The gingiva

is reddish in color, rounded margino-papillary shape, smooth, shiny and dotted surface, orange peel in some areas. It is mostly positioned on the LAC, with an enlarged, thick biotype and gingival recession from canine to lower canine (Figure 1).

**Radiographic interpretation:** Coronal slices every 1 mm 100 µm thick and axial slices every 1 mm 100 µm thick at 1:1 scale are observed (Figures 2-5).

**P.21:** Erupted, rotated, in a straight position, towards vestibular, with root bifurcation of the middle third of the root towards apical. Normal periapical.

On the lingual side, presence of a supernumerary, rudimentary, erupted tooth under the occlusal plane. With straight root, in intimate relation with the numerary piece without generating rhizolysis, presents a single straight, conoid root.

**P.27 and 28:** Erupted, P.28 slightly rotated, root straight, periapical normal. Immediate tooth to vestibular table. Note the presence of a rudimentary supernumerary piece on the lingual side, in intraosseous development, with apical third in formation. Normal pericoronal sac. Note the slight lingual root exorizalasis of P28 associated with malposition of the supernumerary tooth (axial sections 8 and 9 and coronal section 10).

### Diagnosis by levels

**Systemic:** Male patient, 21 years of age, ASA II, smoker of 5 tobacco cigarettes and marijuana a week, presenting periodontal disease in the lower and upper arches.

**Skeletal/Dentomaxillary anomalies:** Class I, on the inner side of the mandible at the level of the left premolars there is a rudimentary supernumerary tooth.

**Musculo-articular TMJ:** Corrected deviation to the right with

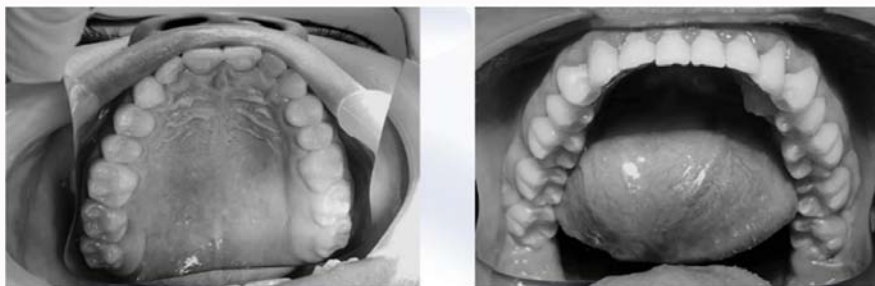


Figure 3: Intraoral photographs.

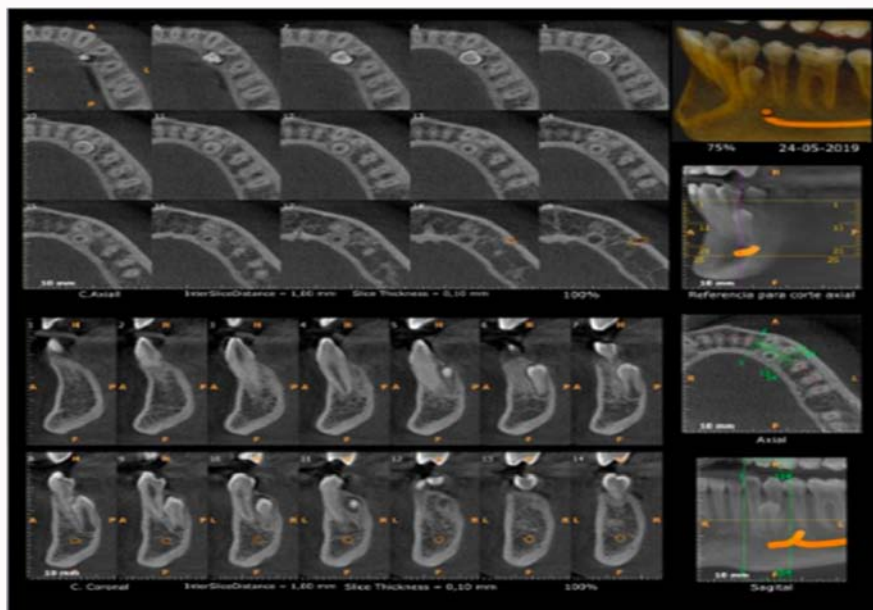


Figure 4: Complementary examinations: Scanner/Cone Beam CT scanner.

situational clicking, asymptomatic.

**Lymph nodes:** Mandibular lymph nodes: Palpable, right unilateral, less than 1 cm, soft, mobile and tender to the touch. The rest of the lymph nodes are not palpable.

**Occlusal:** Occlusion without alterations, only lingual discomfort (occasional, not limiting) due to supernumerary tooth.

**Dental:** Whitish plaque with generalized swelling, dental calculus in 2.4 and in 1.6 1.7 1.8

**Endodontic:** No root canals.

**Periodontal:** Gums in the maxilla and mandible show generalized inflammation, redness and sensitivity, as well as gingival recession in areas of the mandibular anterior teeth, accumulation of bacterial plaque and halitosis (signs and symptoms that indicate possible periodontal disease - periodontitis).

**Pathology:** Rudimentary supernumerary tooth and frenulum appendage.

## Discussion

The proposed and ideal treatment plan always started with proper patient education regarding hygiene and current and future ailments, followed by preventive oral hygiene treatments; then a referral to a

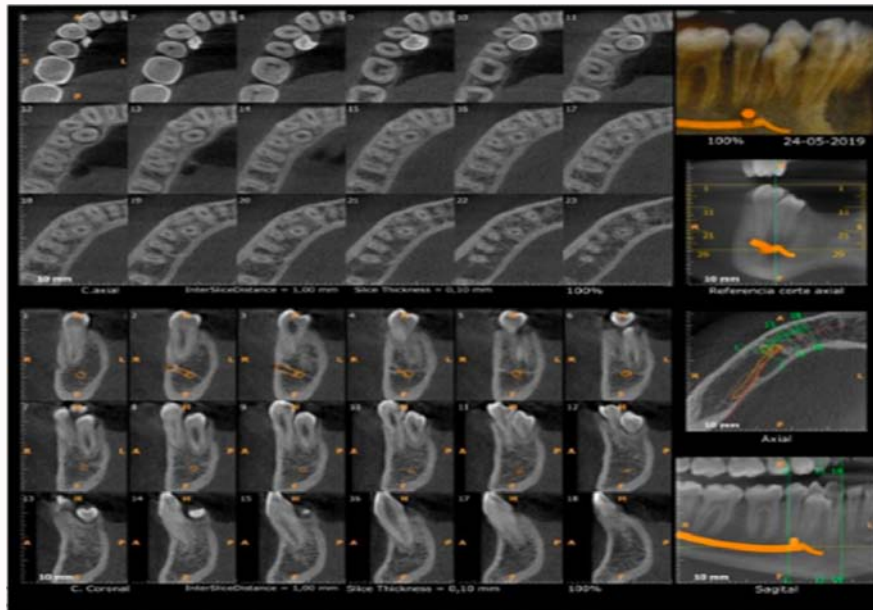
periodontist for scaling and periodontal TTO, followed by a referral to maxillofacial surgery for extraction of rudimentary supernumerary teeth and extraction of erupted third molars if necessary.

In relation to the patient's condition, an anomaly/disorder of odontogenesis developed, specifically in the bud stage, where the physiological process was affected in the initiation, generating hyperdontia.

This is a rudimentary paramolar supernumerary tooth, as it is smaller in size and has an abnormal shape. It is molariform and is located in the mandibular region, specifically on the lingual side in the area of the premolar teeth.

Despite the expectations the patient has expressed to us, he has not requested or attended consultations to continue with the treatment plan.

With regard to the clinical case methodological strategy, it is important to open up the spectrum of training to new technologies that facilitate the impact of the aforementioned didactics, so that students can incorporate new languages into their practice and incorporate the necessary competences of a comprehensive health professional. Educational policies and curricula must consider the updating of practices for a better and more prepared society. Consider alternative and pertinent curriculum designs and socialize them in



**Figure 5:** Complementary examinations: Scanner/Cone Beam CT scanner.

undergraduate training.

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