

**Management of Palatally Impacted Inverted Supernumerary Teeth: A Case Report**

<sup>1</sup>Dr Nikhitha Elsa Shaji, Post Graduate Student, Department of Pedodontics, Sri Siddhartha Dental College and Hospital, Tumkur

<sup>2</sup>Dr Jyothsna V Setty, Professor and HOD, Department of Pedodontics, Sri Siddhartha Dental College and Hospital, Tumkur

<sup>3</sup>Dr Mahesh Kumar, Senior Lecturer, Department of Pedodontics, Sri Siddhartha Dental College and Hospital, Tumkur

<sup>4</sup>Dr Dipali Vetal, Post Graduate Student, Department of Pedodontics, Sri Siddhartha Dental College and Hospital, Tumkur

<sup>5</sup>Dr Utkarsh Patil, Post Graduate Student, Department of Pedodontics, Sri Siddhartha Dental College and Hospital, Tumkur

<sup>6</sup>Dr Anushka Choche, Post Graduate Student, Department of Pedodontics, Sri Siddhartha Dental College and Hospital, Tumkur

**Corresponding Author:** Dr Nikhitha Elsa Shaji, Post Graduate Student, Department of Pedodontics, Sri Siddhartha Dental College and Hospital, Tumkur

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**Abstract**

Mesiodens refers to supernumerary teeth located in the anterior maxillary region. These additional teeth may either erupt into the oral cavity or remain impacted. The presence of mesiodens—whether erupted or impacted—can interfere with normal esthetics, occlusion, and masticatory function. Early diagnosis, particularly of impacted mesiodens, is crucial to avoid potential complications such as delayed eruption or displacement of adjacent permanent teeth, crowding, and cyst formation, which is one of the most frequently reported

sequelae. The decision regarding the optimal timing for surgical removal is typically influenced by the patient’s age, stage of dental development, and the spatial relationship of the mesiodens with neighboring teeth. This article reports the clinical management of a rare case involving double mesiodentes in a pediatric patient, one of which was impacted and discovered incidentally during routine radiographic examination.

**Keywords:** Early Diagnosis, Mesiodens, Crowding

## Introduction

An extra tooth or tooth-like structure that emerges in the oral cavity in addition to the conventional number of teeth is called a supernumerary tooth. The underlying cause of supernumerary teeth is not yet fully understood. The hyperactivity of the dental lamina is presently the most widely supported theory regarding the etiology of supernumerary teeth.<sup>1</sup>

Supernumerary teeth can either erupt into the oral cavity or remain impacted, with the latter frequently causing delayed eruption, malocclusion, and displacement of adjacent teeth<sup>2</sup>

The prevalence of supernumerary teeth varies among different populations, ranging from 0.15% to 3.8% in permanent dentition, and they are more commonly found in males than females, with a reported male-to-female ratio of approximately 2:1.<sup>3</sup> Studies have shown that mesiodens account for about 80% of all supernumerary teeth, with only 25% naturally erupting into the oral cavity, while the majority remain impacted<sup>2</sup> of which, inverted mesiodens account for approximately 9% to 67% of all reported cases of mesiodens.<sup>4</sup> Research shows that 94.64% of supernumerary teeth occur in the maxilla, with 40% positioned in the premaxilla, whereas only 5.36% are found in the mandible.<sup>5</sup>

Early identification of extra teeth is essential to avoid issues like adjacent teeth's roots resorption, cyst formation, and orthodontic disturbances, which is often achieved through radiographic examination, where they are frequently identified as incidental findings.

This case report describes a patient with impacted supernumerary teeth, including mesiodens, highlighting the clinical presentation, diagnostic methods, and management strategies.

## Case Report

A 10-year-old male patient came to the department with the complaint of an additional tooth in the front tooth region and wanted it to be removed, as it was affecting his mastication and aesthetics. There was no relevant medical history for the patient, and none of the family members have exhibited the same problem. On intraoral clinical examination, the presence of mesiodens was revealed on the lingual region of 11 (Figure 1), which caused a labial displacement of 11.

Radiographic examination revealed two well-defined conical radiopaque mesiodentes, one which was erupted and the other impacted and inverted between the apices of the left central and the lateral roots of the incisors. (Figure 2)

The patient was then advised for a CBCT, which confirmed the position of double mesiodentes present in the maxillary anterior region (Figure 3)

The patient was informed about the condition, and after a complete hemogram, surgical removal of inverted mesiodens was performed under LA. After the extraction of the erupted mesiodens, the supernumerary tooth was removed by raising the palatal flap and cutting the palatal bone precisely using a bur until the tooth was exposed. (Figure 4). Then sutures were placed neatly to approximate the palatal flap, and the patient was recalled after 7 days. (Figure 5). Suture was removed after 7 days, and the wound healed uneventfully. (Figure 6)

## Discussion

Supernumerary teeth can develop individually or in clusters, on one or both sides, and may be found in the upper jaw, lower jaw, or both.<sup>6</sup> Impacted mesiodens, a type of supernumerary tooth located in the maxillary anterior region, results from multiple factors, including genetic predisposition, environmental influences, and disturbances in dental lamina during development.<sup>4</sup>

While mesiodens are often detected incidentally on intraoral or radiographic approaches, the presence of double mesiodens is rare and may go unnoticed due to limited awareness.<sup>7</sup> In our case, the patient reported an extra tooth that was affecting him aesthetically, but radiographic examination revealed another impacted mesiodens, which was an incidental finding and the patient was willing to remove both mesiodentes.

Early detection and timely surgical removal are advised when a supernumerary tooth interferes with the eruption or misalignment of permanent teeth, which also allows for early orthodontic correction for arch alignment.<sup>8</sup>

Evaluation of the relationship of impacted mesiodens with the adjacent tooth along with child's age is crucial for determining the correct timing for surgical removal. According to studies either prompt removal, soon after diagnosis, is advocated,<sup>9</sup> or else, in order to avoid damage to the root apices, the supernumerary tooth is left in place until adjacent root completion.<sup>6</sup>

Dentigerous cyst formation is one complication that can occur due to impacted supernumerary teeth, which accounts for 5% of all dentigerous cyst.<sup>10</sup> Asumi et al. have reported 11% dentigerous cyst was because of impacted supernumerary teeth.<sup>11</sup> Hurlen and Humerfelt reported that 7% dentigerous cyst cases were associated with supernumerary teeth.<sup>12</sup> Hence, the removal of impacted mesiodens is important to avoid chances for the formation of cysts.

In this case, the patient was completely asymptomatic, but due to aesthetic concerns and awareness of the impacted mesiodens, was willing to remove the double mesiodentes, and there were no risks associated with the extraction of the mesiodentes.

### Conclusion

Impacted mesiodens require early detection, accurate diagnosis using CBCT, and appropriate treatment

planning to prevent complications and ensure proper dental development. The decision to extract should be based on clinical and radiographic findings, considering the risks and benefits for the patient.

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**Legend Figures**

Figure 1: Intraoral Picture Showing the Mesiodens in the Lingual Side Of 11



Figure 2: Iopa Revealing Double Mesiodentes



Figure 3: Cbct Scan



Figure 4: Exposure of Inverted Impacted Mesiodens



Figure 5: Sutures Placed



Figure 6: After 1 Week Follow- Up

