

## CASE REPORT

# Dental Manifestations of Congenital Syphilis in a 12-year-old Girl

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## ABSTRACT

**Introduction:** Congenital syphilis, which is an infectious disease, is transmitted to the newborn by an infected mother during pregnancy and primarily caused by the microorganism *Treponema pallidum*. Late congenital syphilis is a very infrequent clinical finding acknowledged 2 or more years after birth, and its early diagnosis and treatment are necessary.

**Case report:** This case report highlights a case of late congenital syphilis presenting itself with mulberry molars at an age of 12 years. The present clinical findings, the medical history, and reports given at the time of birth are indicative of the disease.

**Conclusion:** Thus, the case report highlights the fact that dentists should be well versed with the systemic conditions and its dental implications for the right treatment of the disease.

**Keywords:** Congenital syphilis, Dental manifestations, Mulberry molars.

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## INTRODUCTION

Congenital syphilis is an infectious disease, i.e., transmitted to the fetus by an infected mother. It is one of the oldest identified infections, and still continues to prevail accounting for widespread global perinatal morbidity and mortality.<sup>1</sup> The main microorganism, i.e., *T. pallidum*, which is responsible for this infectious disease, after the 16th week of the intrauterine life, crosses through the placenta. Therefore, depending upon the time and extent of infection, it may patchily affect the facial structures. The orofacial appearances of congenital syphilis can be

divided into early and late. Diffuse maculopapular rash, periostitis, and rhinitis are the early manifestations. Late features are seen almost 24 months after birth, comprising the Hutchinson's triad, which is interstitial keratitis, eighth nerve deafness, and dental anomalies (notched, screw driver-shaped incisors, and mulberry molars).<sup>2</sup> Epidemiologic studies have shown that, worldwide, over 2 million expectant mothers test positive for syphilis each year. This comprises 1.5% of all pregnancies globally. It is also reported that 650,000 of these pregnancy difficulties result in perinatal death of the child.<sup>1,3-8</sup>

But, at times, due to a lack of acute symptoms or complications, manifestations of congenital syphilis may go unnoticed.

This is a case report of a girl who presented to the outpatient department for dental problems and, on complete examination, was diagnosed with congenital syphilis.

## CASE REPORT

A 12-year-old girl reported to the department with the chief complaint of missing 13, 23. On general examination, the patient was seen wearing spectacles. On intraoral examination, notched upper central incisors and hypoplastic lower central and lateral incisors were seen along with mulberry molars in the upper and lower arch as shown in (Figs 1, 2A and B). Besides that, 13 and 23 were missing, the maxilla was short with high palatal arch, and there was crowding in the upper and lower anterior regions. Suspecting it to be a case of congenital syphilis, a detailed

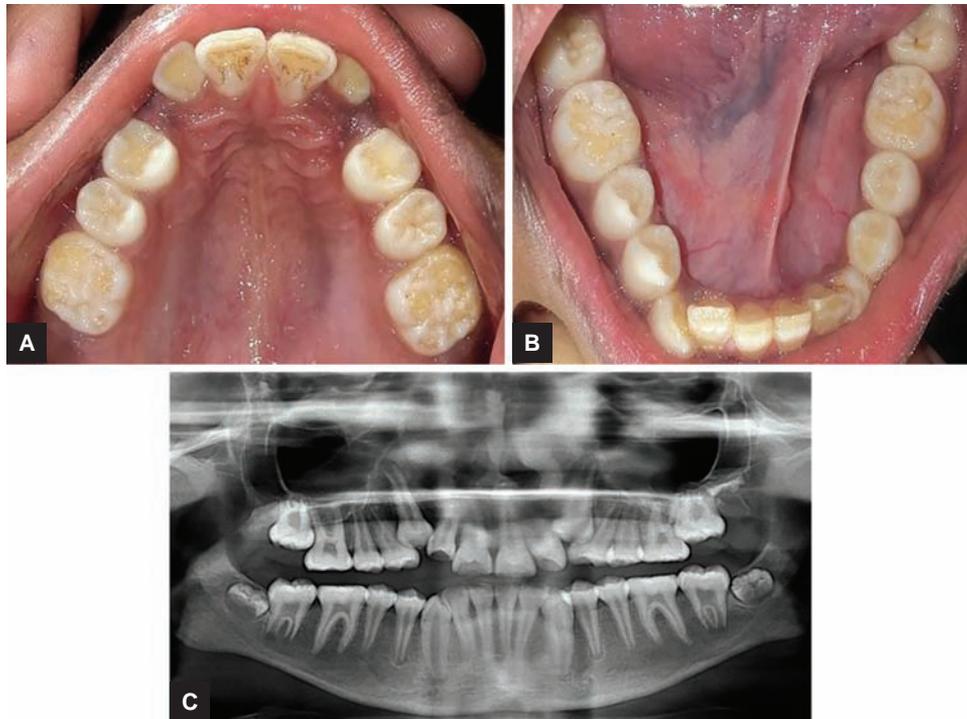


**Fig. 1:** Notched maxillary central incisors, hypoplastic mandibular central and lateral incisors

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**Figs 2A to C:** Mulberry molars in the (A) Maxillary arch; (B) mandibular arch; and (C) orthopantomogram

patient and family history was obtained from the mother. The patient had no siblings, so any chances of occurrence of this disease in the other child was not there. The mother additionally revealed that both the parents had undergone treatment during the time of the child's delivery, but they were unable to define the treatment they underwent. On checking the earlier clinical records of the patient, it was found that she had acute gastroenteritis with convulsions at the age of 6 months. The temperature was raised and evident pallor was seen at that time. The cardiovascular tests done at that time were normal. The blood investigations done at the age of 6 months showed reduced hemoglobin (Hb)% and increased total leukocyte count.

An orthopantomogram was advised for the present dental condition that showed impacted maxillary canines as shown in Figure 2C. The routine blood investigations revealed normal Hb%, total leukocyte count, differential leukocyte count, and platelet count. Venereal Disease Research Laboratory (VDRL) test (screening test) was reactive at 1:64 dilutions and *T. pallidum* hemagglutination (specific test) was positive.

The patient had diminished vision, but no evidence of neurological or cardiovascular involvement and no signs of eighth nerve deafness were seen. There was no outward bony abnormality. Apart from the anterior teeth and the permanent 1st molars, no other teeth in both the arches were seen to be malformed or hypoplastic.

Esthetic dental treatment was carried out for the notched incisors and composite restorations were done in



**Fig. 3:** Composite restorations done in maxillary central incisors and mandibular central and lateral incisors

all the deformed teeth as shown in Figure 3. The patient was referred to a physician for further treatment.

## DISCUSSION

The purpose of this report is to highlight a case presenting with a rare finding, i.e., congenital syphilis based on dental findings alone.

Congenital syphilis, as the name indicates, is a type of syphilis, i.e., present at the time of birth in a child born to an infected mother. Few infants with this condition present with findings at the time of birth itself, but most children develop the symptoms later in life.<sup>9</sup> The classical primary syphilitic chancre will not be seen in

the newborn, but signs of secondary syphilis (i.e., generalized body rash) can be seen. Very often, such babies will develop syphilitic rhinitis (snuffles), the mucus which is loaded with the *T. pallidum* bacteria, and for that reason, it is highly infectious in nature. Babies that are exposed, *in utero*, may develop malformations or seizures along with certain other problems, such as rash, fever, hepatosplenomegaly, gastrointestinal inflammation, jaundice, anemia, leukopenia or leukocytosis, and fibrosis.<sup>9</sup> In this case, the child had presented with acute gastroenteritis and convulsions at 6 months of age along with fever, decreased Hb, and increased total leukocyte count, which accounts for detailed evaluation and confirmatory diagnosis for the case, which was proved by the VDRL testing done. Sometimes, the signs and symptoms of syphilis go unobserved in infants. Then, they may develop the symptoms of latent syphilis, which includes damage to their teeth, bones, ears, eyes, and brain. The classical Hutchinson's triad of this disease includes interstitial keratitis, eighth nerve deafness, and Hutchinson's teeth (peg-shaped, notched central incisors and mulberry molars), although eighth nerve deafness is not always seen and is reported in only 3% cases.<sup>9</sup> In syphilis, the dental flaw may originate within a few weeks after birth as a single disruption to tooth crown formation or during the later development of the teeth. But it becomes evident only later, when the permanent incisors and first molars erupt. This disturbance occurs as an inflammatory reaction induced by *T. pallidum*, which enters near the vicinity of the developing dental germ and causes ameloblasts inhibition.<sup>10</sup>

## CONCLUSION

Dentists play an important role in taking care of the oral as well as systemic health of an individual. A thorough knowledge of the systemic conditions along with its dental manifestations aids the dental surgeon to help

correctly diagnose, treat, and improve the overall health status of a patient.

## Clinical Significance

An apparently simple clinical condition may have a systemic origin due to which the treatment plan may get altered. As the oral cavity can act as a window to systemic illnesses, a vigilant dentist should be able to provide optimal care to the patient.

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