

# The Study of Dento-Alveolar Characteristics of Preterm Adolescents

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## Aim

To the study of the type of malocclusion of adolescent patients born preterm

## Objective

To the study of other Dento-alveolar characteristics of adolescent patients born preterm

## Background

Preterm baby is the birth of a baby at less than 37 weeks gestational age. Premature infants are at greater risk for cerebral palsy, hearing problems, vision problem and delays in development including dental development. These risks are greater the earlier a baby is born. This study is aimed at studying the mal-occlusion of them.

## INTRODUCTION :

Preterm baby is the birth of a baby at less than 37 weeks gestational age. Premature infants are at greater risk for cerebral palsy, hearing problems, vision problem and delays in development including dental development. These risks are greater the earlier a baby is born.

The cause of preterm birth is often not known. Risk factors of the mother include diabetes, high blood pressure, obesity or underweight, infections, tobacco smoking, and psychological stress. About 15 million babies are preterm each year. A preterm infant is poorly equipped for extra uterine life, and usually requires considerable medical support and intervention during the neonatal period. Many serious complications are encountered in nearly all the major organ systems including birth asphyxia, hyaline membrane disease, intracranial haemorrhage, renal immaturity, metabolic dysfunction, gastrointestinal intolerance, and susceptibility to infections. Studies have indicated that in early childhood preterm children show significant delay in many areas of physical and psychological growth and development. Although 'catch-up' growth has been reported in later childhood, some studies have indicated that long-term delays into adolescence may occur.

Like other tissues of the body, the oral structures are also affected by birth prematurity, the common defects includes the Structural changes in the dental Enamel: enamel opacity and enamel hypoplasia. Crown dilacerations from endotracheal intubation. Palatal distortions and Retardation of dental growth and development delay in eruption of the primary dentition and permanent dentition. Malocclusion is also a common problem encountered in preterm babies. The present study is carried out to estimate the type of malocclusion and other dental defects prevalent in the patient with history of preterm delivery.

## MATERIAL AND METHOD :

### Inclusion criteria:

Patients attending the out patient department of saveetha medical college with the history of preterm delivery.

### Exclusion criteria:

Patient with other systemic complication.

Syndrome patient

### Methodology:

Oral Clinical examination were done for patients attending the out patient department of saveetha medical college with the history of preterm delivery. Their occlusion status, palatal distortion, enamel hypoplasia, development delay and prevalence of dental caries were recorded

## RESULT :

Out of ten cases 6 cases showed class II malocclusion, 2 cases showed class I and class III malocclusion. Mal-alignment noticed in 6 cases and 8 cases showed prevalence of dental caries.

Cases	Age /Gender	Observed characters		
		Malocclusion	Malposition noticed	Dental carries
Case 1	12	Class 2	Upper and lower Anterior s	4
Case 2	15	Class 1	Canine	3
Case 3	17	Class 2	Incisors	2
Case 4	13	Class 3	No abnormality detected	-
Case 5	16	Class 2	No abnormality detected	2
Case 6	15	Class 2	Incisors	4
Case 7	12	Class 1	Anterior	5
Case 8	17	Class 3	No abnormality detected	-
Case 9	13	Class 2	No abnormality detected	4
Case 10	18	Class 2	anterior	6

## DISCUSSION

Preterm babies are born before 37 weeks of gestational age. The preterm babies are more prone for various developmental defects and systemic problems. The preterm babies were also prone for dental problems like malocclusion, enamel defects and palatal deformities. The literature says that Class II was the most frequent malocclusion found in the preterm babies, the present study also concludes that class 2 malocclusion was predominantly noticed in preterm babies. The modern use of nasal intubation instead of oral intubation may reduce the effect of oral defects on the alveolar ridge and palatal arch seen in earlier studies in younger children. Tooth size discrepancies are now thought to be multifactorial, with strong genetic and environmental contributions and are noticed in preterm babies. Genetic influences in tooth dimensions, which have been clearly demonstrated in twin and race studies (Gain et.al., 1968; Potter et al., 1976; Osborne, 1978; Townsend and Brown, 1978). Tooth size discrepancy was not encountered in our study. These effects of birth prematurity and low birth weight may be the result of several influences. Since low birth weight is directly related to low gestational ages and birth prematurity. This factor is related to the difference in dimension of the tooth.

Paulson reported a higher prevalence of malocclusion traits and the assessed need of orthodontic treatment were higher among the preterm children compared with full-term born

children which was similar to our study<sup>1</sup> and he also reported that premature children are at risk for malocclusions from possible alterations of palatal morphology such as asymmetry and high arched palates<sup>2</sup>. In the present study malocclusion was associated with malposition of the anterior teeth but alteration in the palatal morphology was not encountered.

Gravina DB reported that there is no significant difference in the prevalence of dental caries between preterm babies and full term babies; the present study shows eighty percent of patients suffering from dental caries<sup>3</sup>.

## CONCLUSION

The present research concludes that class 2 malocclusion was common in preterm patients and the malocclusion is associated with malposition of teeth and dental caries.

Further study with larger sample size will through more light in to this.

## REFERENCE :

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3. Gravina DB<sup>1</sup>, Cruvinel VR, Azevedo TD, de Toledo OA, Bezerra AC. Prevalence of dental caries in children born prematurely or at full term. *Braz Oral Res.* 2006 Oct-Dec;20(4):353-7.