Incidence of natal and neonatal teeth in infants born from assisted reproductive technology treatments and normal reproductive patterns at tertiary care centre, Chennai. A pilot study.

Sushmitha Baskar*, Deepa G.

Saveetha Dental College and Hospitals, Chennai-600077

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ABSTRACT
Aim: Prevalence of natal and neonatal teeth in infants born from assisted reproductive technology and normal reproductive pattern at tertiary care centres in Chennai, was evaluated by general examination of infant after delivery for natal teeth and follow up was done to check for eruption of neonatal teeth.

Background: Natal and neonatal teeth, although not a unique anomalies, are observed at time of birth or during first thirty days of life. It is necessary to know dental needs and preventive measures occurring during this age. This will ensure that complete oral health care is provided to child at time of birth.

Reasons for Studies: The risk of birth defects following assisted reproductive technology treatment is a controversial question. By determining the incidence, we will know if there is necessity to spread awareness regarding natal and neonatal teeth amongst parents, for welfare of the child.

Keywords: Natal teeth, Neonatal teeth, Incidence, Chennai.

INTRODUCTION
The teeth that have erupted at time of birth are known as natal teeth, and those erupting during the first thirty days of birth are known as neonatal teeth. Natal and neonatal teeth are not unique anomalies. These precociously and prematurely erupted teeth are of great concern for functional and physiological activities in the child’s life and they also affect emotional terms of the parents (1). The main objectives of natal health care are to ensure total infant care during first year of life. Oral health of infant is also important part of natal health care. Natal and neonatal teeth have varying clinical features that are of great concern such as mobility of these teeth raises concern about being swallowed or aspirated by infant during nursing. Also, these teeth may cause complications such as sublingual traumatic ulceration such as Riga-Fede disease in the infant (2,3). For this, it is necessary to know the dental needs occurring during this age and providing preventive measures.

The risk of birth defects in infants following assisted reproductive technology treatment has always been a controversial question. So aim of the study is to assess the prevalence of natal and neonatal teeth in infants born from assisted reproductive technology treatments and normal reproductive patterns at Chennai.

Objectives
To study the incidence of natal and neonatal teeth at Chennai.

To compare incidence of natal and neonatal teeth in infants born from assisted reproductive technology treatments and normal reproductive pattern.

MATERIALS AND METHODS
70 infants born from normal reproductive methods and 40 infants born from assisted reproductive technology treatments, across Chennai were included in this cross-sectional observational study. Infants born between period of March 2015 and April 2015 were included in this study and were physically examined for presence of natal teeth and were observed for one month for eruption of neonatal teeth. A semi-structured and pre-coded questionnaire was used to collect data. Demographic details such as gender and other objective oriented details such as type of teeth i.e. natal and neonatal teeth, occurrence of natal and neonatal teeth in siblings and knowledge about natal and neonatal teeth in parents were collected. After explaining the nature and procedure of the study to the parents, informed consent was obtained from them. All the parents who participated in study were given knowledge about natal and neonatal teeth. Comparison of data for incidence of the natal and neonatal teeth was analyzed with SPSS 16.0 version. To find significance between the collected variables Chi-square test was used. In the above statistical tools the probability value $P=0.05$ is considered as significant level.

RESULTS AND DISCUSSION
Out of 70 infants born from normal reproductive patterns and 40 infants born from assisted reproductive technology treatments recruited, in normal reproductive patterns and assisted reproductive technology treatments, 36 infants were female and 34 male and 21 females and 19 males respectively. This is summary of descriptive data is provided in Table 1. On cross tabulation between incidence of natal and neonatal teeth, no incidence was seen. The data was hence not statistically significant. Table 2 provides a summary of the results. On comparing the extent of sibling involvement, only 1 infant born from assisted reproductive technology treatment, had elder sibling who had natal teeth at time of birth. The data was statistically insignificant (P= 0.710). Table 3 provides a summary of the results. In table 4, when awareness about natal and neonatal teeth was assessed amongst parents, only 5 parents and 2 parents were aware in normal reproductive patterns and assisted reproductive technology patterns respectively. This data shows that about 0.07% and 0.05% of parents involved respectively in normal reproductive patterns and assisted reproductive technology patterns. This data was also statistically insignificant.

**DISCUSSION**

In this study, we assessed the incidence of natal and neonatal teeth in infants born form assisted reproductive technology and normal reproductive patterns. It was carried out using semi-structured questionnaire. In this short term period of research no incidence of natal and neonatal teeth was observed in children. This result can be related to study carried out by Leung for 17 years, amongst 50892 infants who found that incidence of natal and neonatal teeth was about 1:3392(4). Also, it seen in studies carried out by Hegde (2), Susan Buchanan (5) and Alwright(6) that average incidence rate of natal and neonatal teeth is 1:3000. In this short study period, only few infants could be examined. Though we saw more females were observed in this study, there was absence of natal and neonatal teeth. However, studies carried out by Leung (4), Kates (7) showed that incidence of natal and neonatal teeth was slightly more common in females. Study carried out by Leung AK (8) showed racial variations in incidence of natal and neonatal teeth, concluding infants born in American- Indian tribes had slightly more incidence. Study by Leung(2) and Buchanan(5) concluded that generally complications found in infants having natal and neonatal teeth were found to be discomfort during suckling, laceration of mother’s breasts and Riga-fede disease. This led to feeding refusal and aspiration of teeth. Generally, management of natal and neonatal teeth in infants must be done effectively. Study carried out by Leung (2) concluded that no treatment was required if presence of teeth was asymptomatic. Seminario (9) concluded that if the tooth which are mobile and posed risk of aspiration, they must be extracted, with consultation of pediatric dentist. Also, in case Riga-fede disease was present, composite can be placed on rough incisal edges of teeth, as concluded in study carried out by Goho (10). Through our study we were able to create awareness about these complications in parents of infants included. By the time this short term research was completed, many people had knowledge about natal and neonatal teeth. Moreover, parents were conscious and well equipped for providing proper and complete health care for new born infant.

**Limitations and Recommendations**

This study can be carried out for a longer duration of time to assess the incidence of natal and neonatal teeth. Further, this study can be carried out as a prospective long term study, assessing the eruption and prognosis of natal and neonatal teeth

**CONCLUSION**

We could conclude that in given time period no incidence of natal and neonatal teeth was noted amongst infants born from normal reproductive pattern and assisted

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**Table 1: Gender of infants born**

<table>
<thead>
<tr>
<th>Gender of Infants</th>
<th>Females</th>
<th>Males</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Reproductive Patterns</td>
<td>36</td>
<td>34</td>
</tr>
<tr>
<td>Assisted Reproductive Technology Treatments</td>
<td>21</td>
<td>19</td>
</tr>
</tbody>
</table>

**Table 2: Incidence of natal and neonatal teeth**

<table>
<thead>
<tr>
<th>Incidence</th>
<th>Natal Teeth</th>
<th>Neonatal Teeth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Reproductive Patterns</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Assisted Reproductive Technology Treatments</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Table 3: Incidence of natal and neonatal teeth in siblings of infants**

<table>
<thead>
<tr>
<th>Incidence In Siblings</th>
<th>Natal Teeth</th>
<th>Neonatal Teeth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Reproductive Patterns</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Assisted Reproductive Technology Treatments</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**Table 4: Awareness amongst parents about natal and neonatal teeth**

<table>
<thead>
<tr>
<th>Awareness In Parents</th>
<th>Aware</th>
<th>Unaware</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Reproductive Patterns</td>
<td>5</td>
<td>65 (0.07%)</td>
</tr>
<tr>
<td>Assisted Reproductive Technology Treatments</td>
<td>2</td>
<td>38 (0.05%)</td>
</tr>
</tbody>
</table>

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reproductive technology treatments across tertiary care centers in Chennai.

REFERENCES