

Incidence of cleft patients who have reported for cleft surgery after one year of age.

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Abstract

Introduction: The most severe form of congenital anomalies which affect the oral cavity and other related structures are the cleft lip and palate. An abnormal congenital space or gap in the upper lip, alveolus, or palate is known as cleft. There are various combinations in which the cleft lip and the cleft palate can occur. The clefts of the lip and palate can be found isolated or together in. The treatment of cleft lip and palate should be started right after birth. Treatment for cleft children requires a multidisciplinary approach.

Aim: The aim of the present study was to assess the incidence of cleft patients who have reported to the cleft surgery after one year of age.

Materials and Methods: The study was done in a hospital setting, the data was collected from the patient software system of Saveetha dental College and the samples included cleft patients who underwent surgery for cleft lip and cleft palate. The data was analysed using the chi Square test.

Results: The correlation between the age group and the treatment done, it is evident that most of the patients have undergone cleft palate surgery after one year of age (41.5%) and only about 9.4% of patients have undergone cleft palate surgery before one year of age, and in relation to cleft lip surgery 38.5% of patients have undergone cleft lip surgery before one year of age and only 13.6 % of patients have undergone cleft lip surgery after one year of age.

Key words: cleft lip, cleft palate, age, cleft surgery, innovative research,

Introduction

The most severe form of congenital anomalies which affect the oral cavity and other related structures are the cleft lip and palate. An abnormal congenital space or gap in the upper lip, alveolus, or palate is known as cleft. Harelip is the colloquial term used for this condition. The use of this term is highly discouraged. Cleft lip, cleft palate or cleft lip and palate are the more appropriate terms used for this condition (1).

Cleft lip is the result of failure of fusion of the maxillary processes and the frontonasal processes. This failure leads to a cleft of varying extent through the lip, alveolus, and nasal floor. Cleft lip can be categorised into complete cleft lip and incomplete cleft lip. An incomplete cleft lip does not have an extension through the nasal floor. On the contrary a complete cleft lip implies lack of connection between the alar base and the medial labial element (2).

Cleft palate is the result of failure of fusion of the palatal shelves of the maxillary processes. This results in a cleft of the hard palate and/or soft palates. (2) Usually during the fourth developmental stage these clefts tend to arise. By the influence of the time in embryologic life and some interference with the development taking place and the locations of the cleft, where they appear is determined by the locations of the fusion of various facial processes that failed to occur (3).

There are various combinations in which the cleft lip and the cleft palate can occur. The clefts of the lip and palate can be found isolated or together in. Other congenital deformities like the congenital heart diseases can be found associated with the congenital clefts of the lip and palate. These cleft lip and palate can be found associated with many other features like over 300 syndromes. (4) In the developed world, Most scientists and doctors believe that these clefts occur due to both genetic and environmental factors like maternal illness, drugs or even malnutrition.

There are many complications associated with cleft lip and cleft palate. One complication is that loss of hearing may occur and it is highly associated with submucous cleft palate. (5)(6). Abnormal nasal resonance and difficulty in articulation are another characteristic feature in most individuals with cleft lip and palate (5)(7). A child with a cleft palate can have difficulty sucking through a regular nipple due to the gap in the roof of the mouth.

This correction involves surgically producing a face that does not attract attention, a vocal apparatus that permits intelligible speech and a dentition that allows optimal function and aesthetics. The cleft palate team concept has evolved from that need. Because optimal care is best achieved by multiple types of clinical expertise, the team may be composed of individual in: the dental specialties (orthodontics, oral surgery, pediatric dentistry, and prosthodontics), the medical specialties (genetics, otolaryngology, pediatrics, plastic surgery, and psychiatry), and allied health care fields (audiology, nursing, psychology, social work, and speech pathology) (7,8).

The treatment of cleft lip and palate should be started right after birth. Treatment for cleft children requires a multidisciplinary approach including: facial surgery in the first months of life, preventive and interceptive treatment in primary dentition, speech therapy, orthodontics in the mixed dentition phase, oral and maxillofacial surgery, and implant and prosthetics in adults (9). So the treatment to achieve a proper occlusion and function often lasts from birth until adulthood. Patients with cleft lip and palate routinely require extensive and prolonged orth-odontic treatment. Close cooperation between the orthodontist, surgeon, prosthodontist, and general dentist is required .(10). Some Research shows us that the earlier the cleft is repaired the better the speech results will be.(11,12)

It is also important that your child has transitioned away from bottle feeding to eating table foods and drinking from a “sippy“ cup before palate surgery. Using a bottle and nipple immediately after cleft palate surgery may damage the newly repaired palate.

Submucous clefts are not repaired early in life. A submucous cleft only needs to be repaired if speech and language are affected. Approximately 50% of children with a submucous cleft palate will require surgery to repair it. The other half will not need any surgery. It is usually possible to determine the need for submucous cleft palate repair between 3 and 6 years of age.n(11)

The aim of the present study was to assess the incidence of cleft patients who have reported to the cleft surgery after one year of age.

Materials and methods:

The retrospective cross sectional study was done in a private dental institution, in Chennai. This study was approved by the institutional ethical board. Two reviewers were involved in the study. Patient records were reviewed from the digital archives of our university. The data was collected from the patients visiting saveetha dental college who underwent surgery for cleft lip and palate. Only patients with cleft lip and palate without any previous history of surgery.

The independent variables are the patient's PID, name, age and gender. Dependent variables are the patients undergoing surgery for cleft lip and palate. The data collected were reviewed and cross verified. The data was tabulated and imported to SPSS software and the variables were defined. The data was statistically analysed. Chi square tests were performed. The level of significance of each variable was set at p less than or equal to 0.05.

Results and Discussion

The data collected from the patients management software were tabulated in SPSS and the descriptive method statistics were obtained. A total of 212 patients were included in the study among which, 102 were male patients (48%) and 110 were female patients (51%). (Figure 1). Among the patients there are 96 patients who have undergone surgery before one year of age and about 116 patients who have undergone surgery after one year of age. (Figure 2).

Among the patients a total of 105 patients (49%) have undergone cleft lip surgery and 107 (50%) patients have undergone cleft palate surgery. (Figure 3).

The correlation between the age group and the treatment done, it is evident that most of the patients have undergone cleft palate surgery after one year of age (41.5%) and only about 9.4% of patients have undergone cleft palate surgery before one year of age, and in relation to cleft lip surgery 38.5% of patients have undergone cleft lip surgery before one year of age and only 13.6 % of patients have undergone cleft lip surgery after one year of age. (Figure 4)

Figure 1: Gender distribution of patients who underwent cleft surgeries.

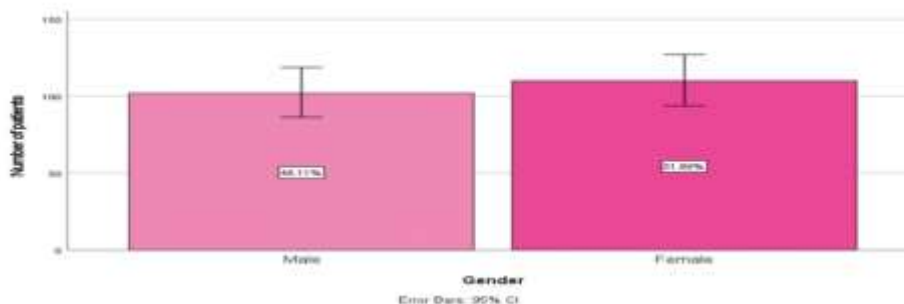


Figure 1: Bar chart representing the gender prevalence of patients who underwent cleft surgeries. X - axis represents the gender and Y - axis represents the percentage of the patients who underwent cleft surgeries. From the graph it is inferred that there is more female predilection for this study.

Figure 2: Age distribution of patients who underwent cleft surgeries.

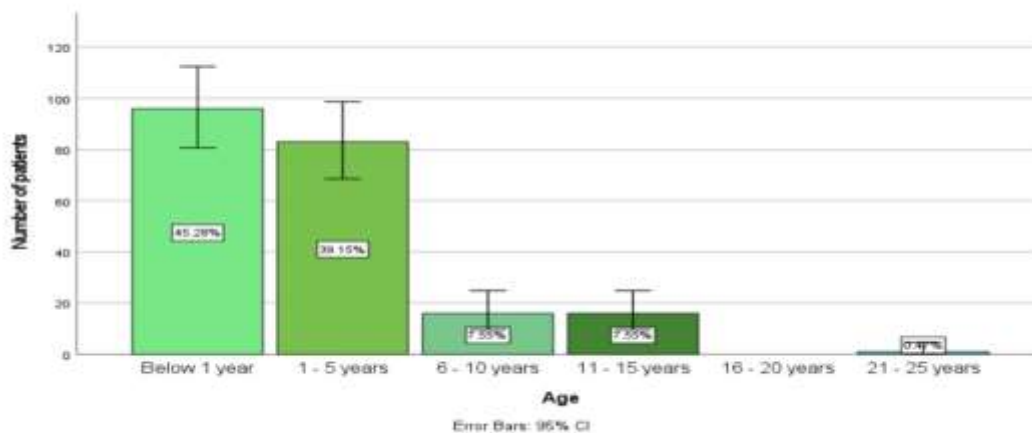


Figure 2: Bar graph representing the age distribution of patients who underwent cleft surgeries. X - axis represents the age group of patients and Y - axis represents the percentage of the patients who underwent cleft surgeries. From the graph, it shows that less than one year age group of patients were more commonly underwent cleft surgeries followed by 1-5 years of age group and least common one is patients in patients with 21-25 age group.

Figure 3 : Distribution of type of cleft surgeries

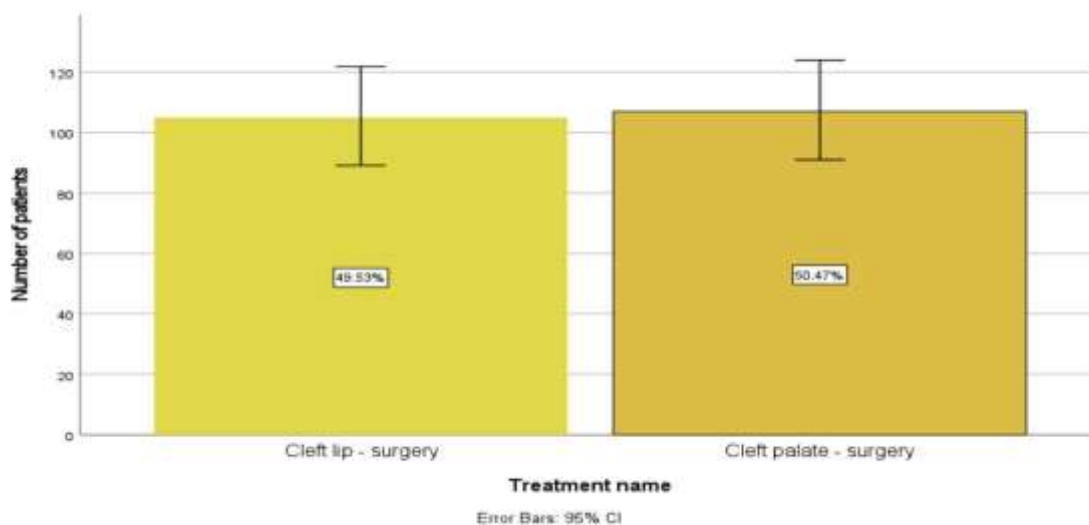


Figure 3: Bar graph representing the frequency of types of cleft surgeries. X - axis represents the type of cleft surgeries and Y - axis represents the percentage of the type of cleft surgery. From the bar diagram, it shows that cleft palate surgeries were more commonly performed than cleft lip surgeries

Figure 4 : Association between age group and type of cleft surgery.

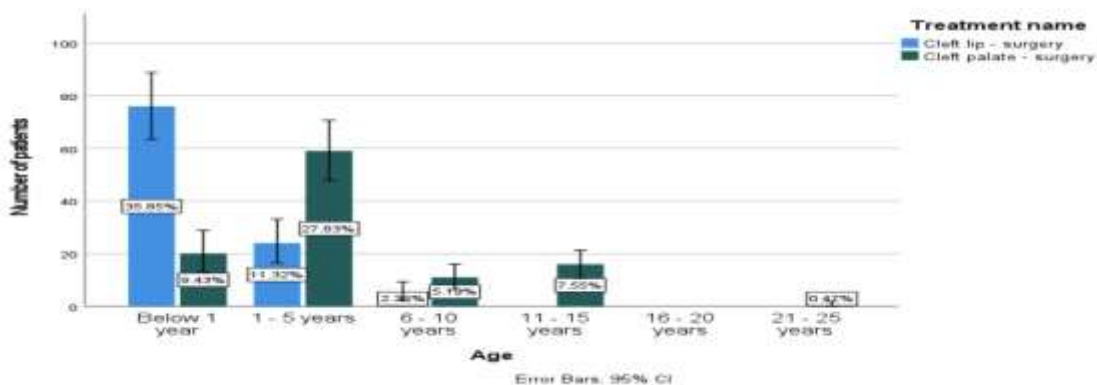


Figure 4: Bar graph representing the association between the age and types of cleft surgery. X - axis represents the age group and Y - axis represents the percentage of patients .Blue bar represents cleft lip surgery and green bar represents cleft palate surgery. From the graph ,it shows that cleft lip surgeries were more commonly performed in patients with less than 1 year age group and cleft palate surgeries were more commonly performed in patients with 1-5 years age group.

Discussion:

Cleft palates are typically repaired between 8 and 12 months of age. Clefts of the soft palate can usually be repaired early (8 to 10 months of age) (13). Clefts of the hard and soft palate are best repaired later (10 to 12 months of age). (14) Studies show that Surgical procedure of the cleft palate is best performed before the child reaches 12 months of age, which is in contradiction with our study.

Studies show that Closure of the lip is accomplished by the plastic or maxillofacial surgeon when the patient is approximately 3 months of age (15), which is in correlation with our study. Some Research shows us that the earlier the cleft is repaired the better the speech results will be.(16).

Our team has extensive knowledge and research experience that has translated into high quality publications(17–25)(26),(27–29).(30,-36). The current study aims at estimating the incidence of dentigerous cysts among patients visiting a private dental setting and in provision of a detailed statistical report.

Conclusion

Our study revealed that most of the patients have undergone cleft palate surgery after one year of age and most of the patients have undergone cleft lip surgery before one year of age. Clinicians should wisely choose procedures and explain to the parents, considering the risk of untreated clefts. Clinicians should explain that the earlier the cleft is repaired the better the speech and function results will be.

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Conflict of interest:

The author declares no conflict of interest.

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