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Prevalence Of Children Above 6 Years of Age Undergoing Dental Treatment Under General Anesthesia

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Abstract

For most children, dental treatments are often completed within the normal dental setting using any of a variety of behavior management techniques. In some cases, special behavior management methods, including general anaesthesia (GA), could also be required to supply optimal dental treatment. The aim of the study is to analyse the prevalence of children undergoing general anesthesia above 6 years. The retrospective study was conducted in a private dental college, Chennai, India. Data has been collected from the records of the children above 6 years of age who were treated under general anesthesia between september 2020 and february 2021. A total of 13 children who have been treated under general anesthesia were included in the study. Data has been collected and following parameters like gender, age groups were tabulated in excel sheet and verified through SPSS software.It has been found that males were more prevalent than females. Children under 10 years were more prevalent than other age groups. Various studies suggest that children with repeated general anesthesia are more likely at the risk of developing behavioural problems and emotional changes compared to healthy children who were not exposed to general anesthesia . It has been observed that two or more exposure to general anesthesia before the age of four were associated with an increased risk of attention problems, cognitive impairment, and learning disabilities, moreover single exposure to the general anesthesia was not associated with learning disability. It is needed to ensure early detection and prompt treatment for these conditions in order to prevent further complications.

Key words: Dental treatment, General anesthesia, systemic effects.

INTRODUCTION :

For most kids, dental therapies are frequently finished inside the typical dental setting utilizing any of an assortment of conduct the board strategies. At times, unique conduct the board techniques, including general sedation (GA), could be expected to supply ideal dental treatment. Such population incorporate youngsters with outrageous anxiety, broad treatment needs, extremely youthful age, physical, mental inabilities (1),(2). The benefit of treatment under GA is that everyone vital treatment is frequently finished during one visit and under insignificant pressure to the patient, parent, and dental specialist.

Notwithstanding, Dentists as a rule have restricted contact with guardians after dental restoration under GA and, subsequently, can't exactly decide how kids recuperate and whether they experience the ill effects of any postoperative side effects during this basic period (3),(4). Dental specialists going through this technique need to know how to encourage guardians about what's in store promptly postoperatively and during the following days (5). Each work should be made to guarantee that the patient remaining parts however agreeable as could really be expected and that dreariness seems to be limited. Most patients get dental consideration under routine circumstances in a traditional office climate. Nonetheless, there are conditions that make an elective strategy for treatment essential. Patient way of behaving, age, and the degree of helpful treatment required are

significant determinants in choosing the method of treatment. Contemporary clinical administration of youth caries is in many cases achieved utilizing general anesthesia.(6),(6,7)

A child's dental anxiety is more strongly associated with the subjective experience of pain and trauma than with objective dental pathology and is influenced by parental, particularly maternal anxiety and is greatest in families with high caries levels.(8)(9).Guidelines on the use of general anesthesia for the delivery of dental care subsist . Some of indications include children who cannot cooperate because of a lack of psychological and emotional maturit, physical or medical disability; those for whom local anesthesia is ineffective because of acute infection, anatomic variations or allergy; those who are extremely uncooperative, fearful, anxious and uncommunicative; those requiring significant surgical procedures; and those requiring immediate comprehensive dental care.(10,11). Thus, the main aim of this study is to find the prevalence of children above 6 years undergoing general anesthesia for dental procedure.

MATERIALS AND METHODS:

The retrospective study was conducted in a private dental college, Chennai, India. Ethical approval was done from the institutional research and review board prior to starting the study. The records from the anesthesiology department were reviewed retrospectively for all the children who had undergone dental treatments under GA. Children who had undergone GA above 6 years had been included in the study and children below 6 years have been excluded. Around 13 children who had been treated under general anesthesia were included in the study. The collected datas has been verified in a standardised manner and then tabulated in excel sheet and analysed with SPSS software (Statistical Package for Social Science) on its latest version. Various parameters like gender, age groups were considered and tabulated in excel sheets and verified through SPSS software and a chi-square test was done to analyse the p values. The P value was set as 0.05 as the level of significance.

RESULTS:

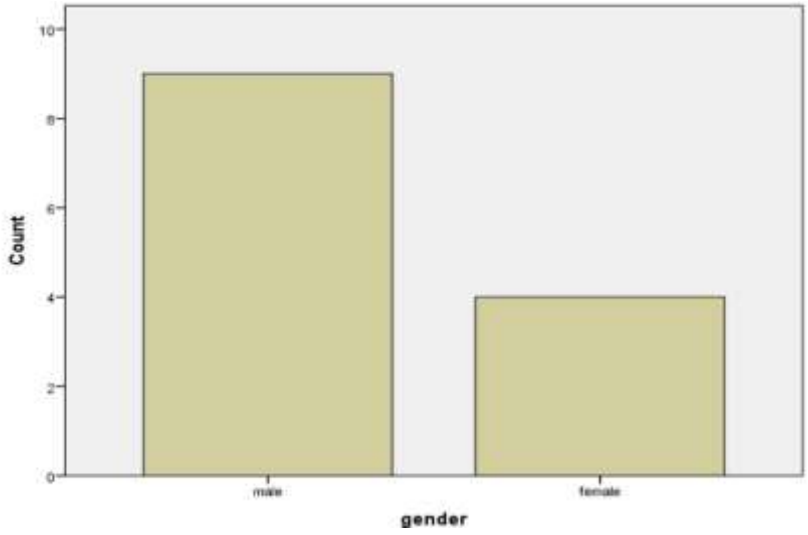

Fig.1: The bar graph represents the gender, wherein Y axis denotes count and X axis denoted the gender. It has been observed that 9 males and 4 females have undergone general anesthesia for dental treatments. This shows that males were more prevalent to general anesthesia. The p value obtained is of 0.043 which is statistically significant.

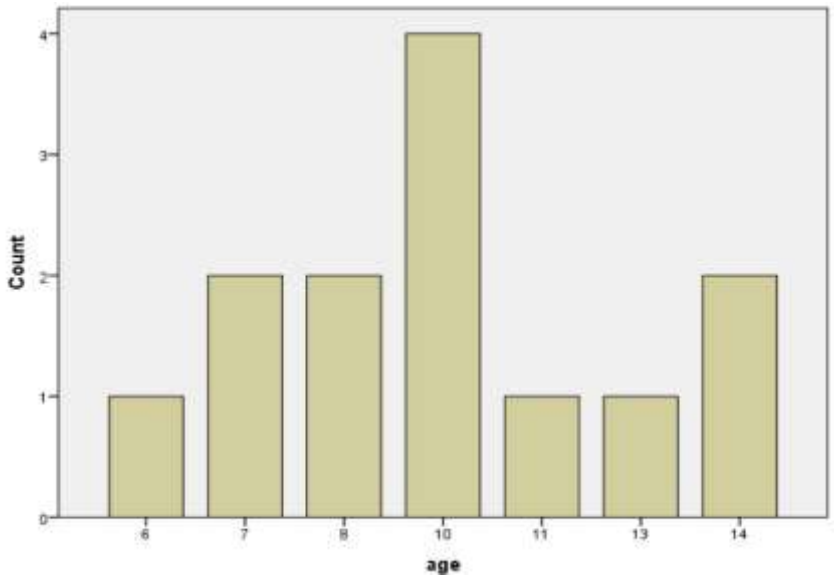

Fig.2: The above bar graph denotes the age group which ranges from 6 years to 14 years. X axis represents the age groups and Y axis denotes the count .It has been observed that the age group of 10 years has more prevalence, when compared to other age groups. From the above graph the p value obtained to be of 0.041 which is statistically significant.

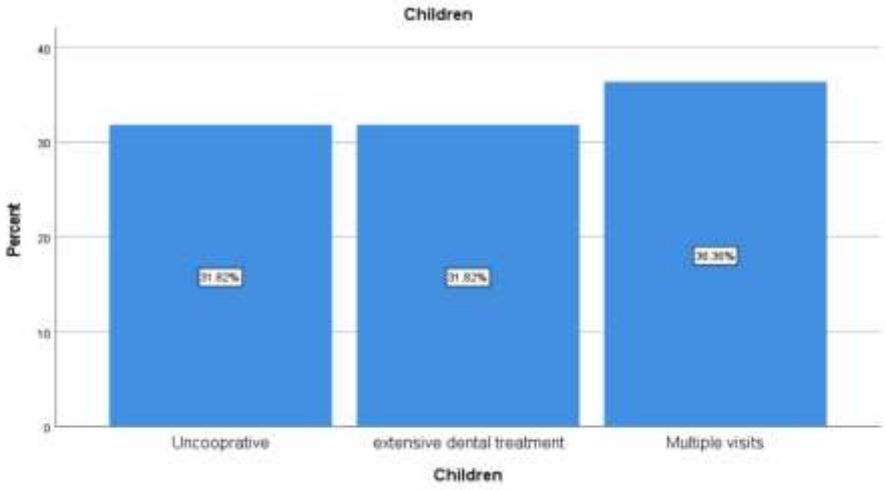

Fig.3: The above graph represents the reasons for administering GA for dental treatments. Wherein children were treated due to uncooperative, extensive dental procedure or to avoid multiple visits. X axis denotes the reasons for administration of GA and Y axis denotes their percentage. It has been observed that to avoid frequent visits people opt for GA while percentage for uncooperative and extensive dental treatment remains equal. The p value obtained is of 0.021 which is statistically significant.

DISCUSSION:

In the current study, it was seen that boys above the age of 6 years were more prevalent to GA for dental treatments and on considering age groups, children in 10 years were more prevalent to GA. No systemic effects were observed from the children who had been considered in this study but, various studies suggest that children with continuous general anesthesia therapy were more likely to developing behavioural problems and emotional changes compared to healthy children who were not exposed to general anesthesia (12),(13). It has been observed that more than 2 times of general anaesthesia may lead to cognitive impairment, and learning disabilities, moreover single exposure to the general anesthesia was not associated with learning disability also can lead to attention deficit and hyperactivity disorder.(13),(14,15). Cognitive impairment can also occur on a single exposure of general anaesthesia at an early age. (16),(17).

There are various studies that suggest post operative pain after general anesthesia. Postoperative complications like pain, nausea were common after the patient was discharged to home.(18),(19). The complete oral rehabilitation of children treated under general anesthesia were mostly restorations and extractions. various types of materials are preferred based on various age group children . Restorative treatments were higher than extractions. Various studies have compared results with conscious sedations, wherein the positive outcomes

of conscious sedation is less while compared to that of general anesthesia (20,21). Majority of the treatments shows good success rate under general anesthesia,it shows better the survival outcomes.(22).

The study was conducted in only one hospital set up and hence the study population is very small which is a potential limitation of the present study. Further research with larger sample size should be conducted to check on the prevalence of posting children greater than 6 years under General anesthesia for dental treatment and also an analysis should be done on the reasons for the same.

CONCLUSION:

Around 13% of the Children above 6 years of age are posted under general anesthesia for dental treatment. Therefore, it totally relies on the dental practitioners and the pediatricians to have complete knowledge about the child's cognitive behavior and mental status. The importance of dental anesthesia in patients with special needs emphasizes that general anesthesia is required in those pediatric patients who cannot bear the dental treatment. Reasons for such rejection of dental treatment may be psychological, medical, or behavioral problems. Therefore, the key for successful dental procedures is the harmony of relationship between dental surgeon and anesthesiologist.

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