Prevalence of Dental Caries in First Permanent Molars Following Oral Rehabilitation Under General Anesthesia during Childhood: A Retrospective Study from a NYC Health + Hospitals Institution

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BACKGROUND

- General anesthesia(GA) is used to safely manage children who are unable to tolerate dental procedures due to age, anxiety, behavioral challenges, or special healthcare needs
- Recurrence rate of caries can be high as 76% despite previous treatment under GA
- More likely to have restoration or extracted permanent teeth during adolescence

Objectives

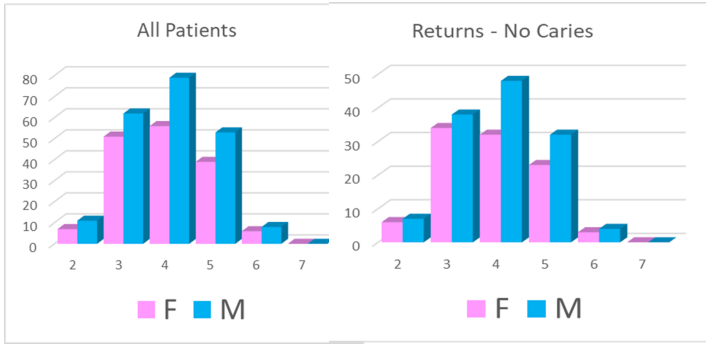
- To assess the prevalence of dental caries in first permanent molars among children who underwent oral rehabilitation under general anesthesia
- To create preventative strategies and improve post-operative care protocols

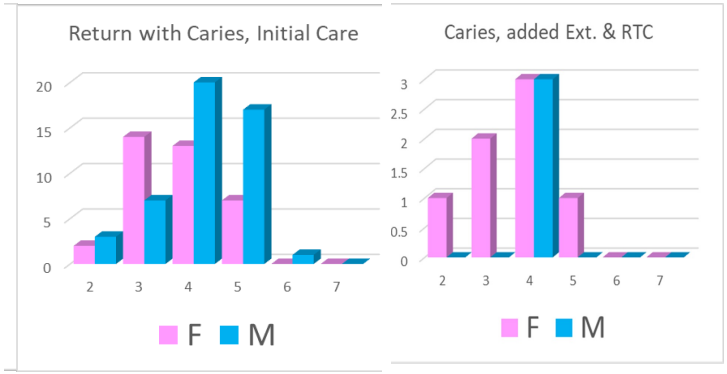
METHODS

- Retrospective chart review of patients treated in the Department of Pediatric Dentistry at Woodhull Medical Center from August 2015 to August 2025
- Inclusion criteria:
  -Pediatric patients at Woodhull Medical Center with only primary teeth that were treated under general anesthesia with age ranging from 2 to 6
- Data examined:
- Periodic Examination Attendance rate
- Caries on First Permanent Molars
- First Permanent Molars requiring Root Canal Treatment or Extraction

RESULTS

- 372 pediatric patients who had previously gone under GA without any permanent teeth present at the time of surgery
  -213 M/159 F
  -145 patients(39.0%) “no-showed” periodic examination
  -143 patients had no caries
  -74 patients had at least one caries on a first permanent molar that required a restoration
  -10 patients required either extraction or root canal therapy





DISCUSSION

- Of the 372 total patients, 227 patients returned for a periodic examination
- 37% had caries among the 227 patients
- However, 145 patients have not returned for any periodic examinations
- Of the 84 patients with caries, 17 had cavities on all four molars and 32 had cavities on two molars, underscoring the importance of continued monitoring and early intervention
- Patients who did not return for periodic examination(39%) may be due to child’s behavior, perceived improvement, underestimation of risk to permanent dentition, and lack of access to care
- Patients who do not have caries (63%) may be due to parents being more cognizant of child’s oral health to prevent future GA visits

KEY POINTS

- There is a need for targeted preventative strategies and improved post-operative care protocols to reduce the incidence of dental complications in this vulnerable pediatric population
- Future studies to look into caregiver education on the importance of post-GA dental care and comparative studies to children receiving non-GA dental care and caries risk to permanent molars

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