Survival rates of primary molars treated with SSC versus primary molars treated with SSC and therapeutic pulpotomy; A claims data analysis.

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BACKGROUND/PURPOSE

- Placement of stainless steel crowns is standard for teeth with large, multisurface caries[1]
  - Pulpotomies are also completed when indicated[4]
- Some practitioners complete pulpotomies prophylactically
  - Avoid further treatment
  - Lower long-term cost
  - Higher longevity

- **Purpose**: To longitudinally evaluate success of **stainless steel crowns placed alone vs. stainless steel crowns completed with therapeutic pulpotomies in primary molars**.

METHODS

- Nationwide commercial insurance data (Fluent™).
- **Retrospective cohort design**
- Inclusion criteria: Patients ≤ 12 years (y) old with primary molar initially-treated with stainless steel crown (D2930) or stainless steel crown and therapeutic pulpotomy (D2930 + D3320) from January 2013 to December 2022.
- Claims data collected: CDT codes, pt age, tooth number, Tx dates,
  provider type - pediatric dentists (PD) or general dentists (GD)
- Statistical analysis: Generalized estimating equation (GEE) for logistical regression, two-sided 5% significance level.

RESULTS

- N=1,668,374 treated teeth
- **Failure rates were 2.8% (SSC) and 3.3% (SSC+P)** (Figure 1)
  - P<0.0001
- **SSC only crowns completed by PD were significantly less likely to fail** compared to those completed by GD (P<0.0001)
  - SSC+P had similar failure rates regardless of specialty
- **SSC+P had a significantly shorter time to failure** than SSC according to Hazards Ratio by Group (see Figure 2)
  - True regardless of specialty, molar type and age group.

- SSC+P cost more than SSC alone (***P*<0.0001**)

- Treatment completed on ages 7 to 12 for both groups cost less than treatment completed on ages 0 to 6 (P<0.0001).

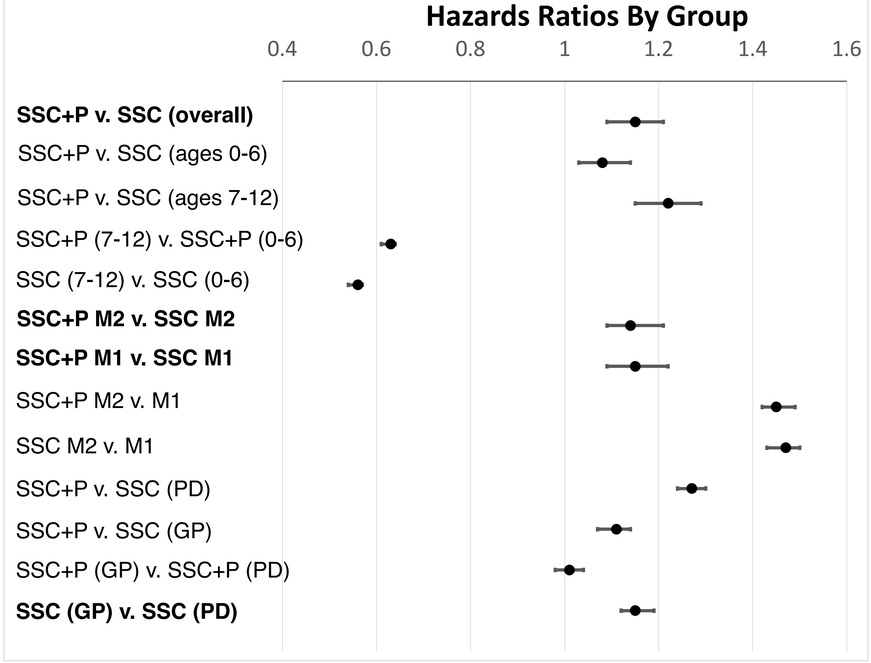

Figure 2

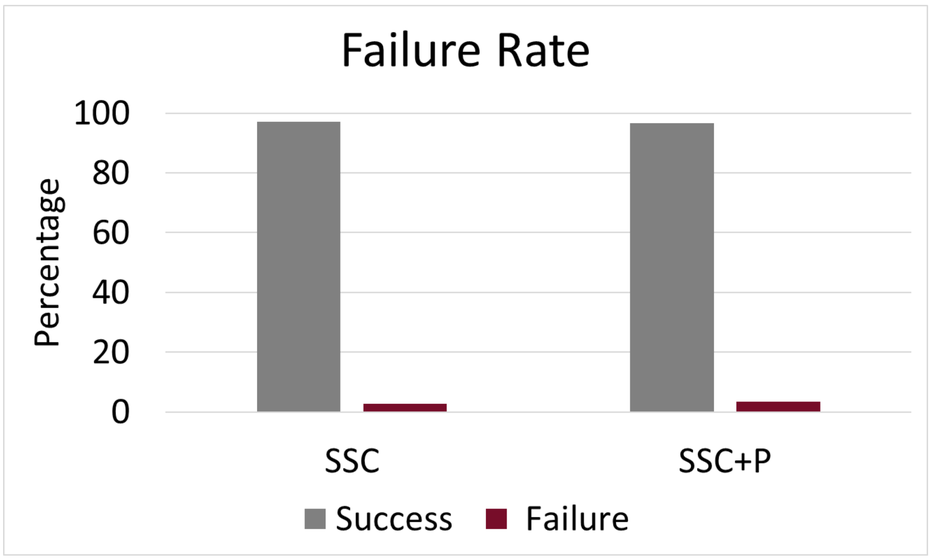

Figure 1

DISCUSSION/CONCLUSIONS

- **Limitations**
  - No data on pulpotomy agents used
  - No information on pulp status prior to treatment
  - No information on type of pulp exposure (carious or mechanical)
  - Claims database only has private pay and not self pay or Medicaid
- **SSC alone have more longevity than SSC+P**
  - Regardless of specialty type, molar type, or age group in which treatment was completed

- **SSC treatment alone was more cost effective than SSC+P**
  - Completion of stainless steel crowns alone provide an overall decreased cost to patients and insurance companies

- **SSC alone completed by PD had lower failure rates than ones by GD**
  - SSC+P had similar failure rates, regardless of specialty

REFERENCES