Association Between Elective Surgery Cancellation and Pediatric Inguinal Hernia Complications

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Background

- Inguinal Hernia (IH) is one of the most common operations performed by pediatric surgeons.
- IH incarceration risk is 3 to 16% peaking in the 1st year of life.
- Incarceration can lead to morbidity such as intestinal obstruction and gangrene leading to emergent operations.
- No consensus interval time between diagnosis and repair exists with surgeons operating earlier to avoid incarceration.
- Unclear whether restriction had any consequences for children awaiting IH repair.

Research Objectives

Determine whether restriction of elective surgeries following the Surgeon General mandate was associated with an increase in incarceration rates of pediatric IH.

Methods

- Multi-institutional retrospective cohort study at 14 U.S. freestanding children’s hospitals.
- Included all patients ≤ 18 years of age who underwent IH repair between 9/13/2019 and 9/13/2020.
- Excluded patients with concomitant orchiopexy or recurrent IH repair.
- Compared incarceration rates pre-restriction (before 3/13/2020) and post-restriction (after 3/13/2020).
- Analysis done with Wilcoxon Rank Sum, X², and multivariable clustered logistic regression.

Results


- 772 (48.3%) IH repaired post-restriction.
- Cohort demographics similar pre- and post-restriction.
- Incarceration rates similar between cohorts (pre-restriction 5.8% vs post-restriction 7.6%, p = 0.15) on univariate analysis.

Interval times between diagnosis and operation significantly longer in post-restriction period (Figure 1.)

Post-restriction not associated with an increase in incarceration rates on adjusted analysis (Figure 2.).

- Males, neonatal age at diagnosis, other non-white races, other insurance/uninsured were patient characteristics associated with incarceration.

Figure 1. Interval Time Between Diagnosis and Inguinal Hernia Repair

Figure 2. Adjusted Odds of Incarceration in Patients Receiving IH Repair

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<tr>
<th>Odds Ratios</th>
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<td>1.0</td>
<td>0.95</td>
<td>1.05</td>
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Limitations

- Retrospective data
- Potentially misses children that were diagnosed with IH but not repaired
- Did not include epicenters of SARS-CoV-2 (e.g., New York)

Conclusions

Elective surgery restriction due to SARS-CoV-2 was not associated with an increase in IH incarceration in children.

References