Analyzing the Presence of Bacterial Colonies Within a Neonatal Suctioning Device: The Blue-Bulb Syringe

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INTRODUCTION
1 in 7 infant deaths are caused by bacterial, viral, or fungal infections Systemic infections have a potential etiology in the oropharynx • External migration of organisms may be precipitated by airborne droplets, secretions, intubation, and suction devices • Colonized bacteria within a suction-bulb syringe has the potential of being introduced into an unsuspecting host upon subsequent use

METHODS
Collected 175 bulbs during two-week period - summer 2014 • Labeled and inspected each bulb • Stored at 4°C until processed in lab • 50 bulbs randomly selected from group of collected samples • Reconstituted residual secretions within the bulb with phosphate buffered solution (PBS) • Injected secretions onto three separate types of biological plates

RESULTS

<table>
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<tr>
<th>Presence of Bacterial Growth</th>
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<tbody>
<tr>
<td>Growth</td>
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<tr>
<td>No Growth</td>
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Discussion
Continue to refine methodology for collecting BBSs, including patient information • Nearly half of the BBSs collected contained bacterial growth • Higher incidence of bacterial growth found in vaginal birth bulbs compared to bulbs collected immediately after a c-section birth • Statistical significance was seen between vaginal and c-section bulbs • Limitation of study: only bacterial analysis was conducted - the presence of viral or fungal growth cannot be substantiated

PRACTICE IMPLICATIONS
Explore professional practice patterns related to vaginal and c-section deliveries • Develop protocols for the use of BBSs throughout the entire hospital stay • Storage and cleaning methods • "Time is a factor" - all discharge BBSs collected and tested were from healthy newborns with an average hospital stay between 24 to 72 hours • Additional studies are needed

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