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**

Presence of Bacterial Growth
- 42% Growth
- 58% No Growth

Bacterial Growth: Discharge vs. Birth
- 44% Discharge
- 41% Birth

Bacterial Growth: Vaginal vs. C-Section
- 55% Vaginal
- 21% C-Section

**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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