



Decolonization of the Oropharynx, an Important and Neglected Reservoir of *Staphylococcus aureus* Colonization

Abstract: 2320



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BACKGROUND

- Community-associated *S. aureus* skin and soft tissue infections are common and recur in 20->50% of cases
- Recent data demonstrate that oropharyngeal (OP) *S. aureus* colonization is common with a prevalence comparable to nasal colonization
- S. aureus* decolonization trials have been disappointing in their ability to prevent recurrent infections, perhaps related to untreated reservoirs such as the OP
- There are few data on the effectiveness of interventions to eradicate OP *S. aureus* colonization

METHODS

- We conducted a randomized double-blind placebo controlled clinical trial of oral decolonization with chlorhexidine gluconate (CHG) for eradicating OP *S. aureus* colonization
- Primary endpoint was OP *S. aureus* colonization at the End of Therapy (EOT) visit using an intention to treat (ITT) model
- We enrolled healthy outpatient children from ages 5-17 who were screened for OP *S. aureus* colonization
- Colonized subjects were randomized to 0.12% CHG gargle or placebo gargle twice daily x 7 days
- We also measured OP *S. aureus* colonization at 28 days and nasal *S. aureus* colonization at all study visits

RESULTS

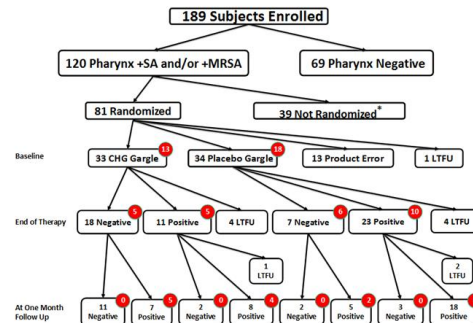
- Among 189 screened subjects, 120 (63%) had OP *S. aureus* colonization; 81/120 (66%) were randomized and 67 were analyzable (CHG: n=33; Placebo: n=34) (Figure 1)
- 14 subjects were not analyzable due to product error or lost to follow up prior to study drug receipt

RESULTS

Table: Demographics

Variable	All, N=67	CHG Gargle (n=33)	Placebo Gargle (n=34)
Age			
Mean ± SD	11.7	11.0	12.4
Median (range)	11 (5-17)	10 (5-17)	13 (5-17)
Gender			
Female	27	14	13
Male	40	19	21
Ethnicity/Race			
White Hispanic	58	29	29
White Not Hispanic	1	0	1
Asian/Pacific Islander	3	1	2
Black/African American	4	3	1
Other	1	0	1

Figure 1: Oropharyngeal *Staphylococcus aureus* Colonization



Legend

Red circles represent number of subjects that had nasal *S. aureus* colonization at each visit.
*Of the 39 not randomized, 31 were not randomized due to loss of contact (not returning calls, incorrect numbers given) with subjects, 4 subjects withdrew from the study, 2 subjects were not randomized due to being prescribed antibiotics upon initial screening, and 2 subjects were not randomized due to the expectation of re-hospitalization.

RESULTS

- In the ITT analysis, EOT OP *S. aureus* colonization was 45% (15/33) in the CHG group and 79% (27/34) in the placebo group (P=0.004)
- In the as treated analysis, OP *S. aureus* colonization was 40% (11/29) and 77% (23/30) in the CHG group and placebo groups (P=0.003)
- At Day 28 in the ITT model, OP *S. aureus* colonization was 61% (20/33) vs. 85% (29/34) in the CHG and placebo groups (P=0.03)
- At EOT, nasal colonization in those without EOT OP *S. aureus* colonization was 11/25 (44%) vs. 15/34 (44%) in those still OP *S. aureus* colonized at EOT
- At Day 28, nasal colonization was 0/18 (0%) in those without (Day 28) OP *S. aureus* colonization vs. 19/38 (50%) in those with (Day 28) OP *S. aureus* colonization

CONCLUSIONS

- One week of 0.12% oral CHG gargle was more effective than the placebo at eradicating OP *S. aureus* colonization in *S. aureus* colonized children
- Significant differences between groups persisted at Day 28
- OP *S. aureus* colonization at Day 28 was associated with synchronous nasal *S. aureus* colonization, suggesting nasal colonization may contribute to persistent OP colonization
- Future *S. aureus* decolonization studies should strongly consider addition of OP CHG as part of a global decolonization strategy

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