

The Pediatric Endotracheal Aspirate Culture Survey (PETACS): Examining Practice Variation Across Pediatric Microbiology Laboratories in the United States

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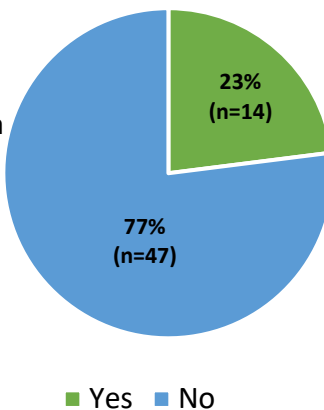
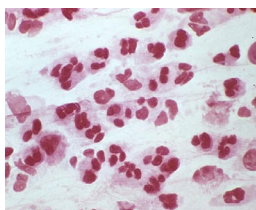
INTRODUCTION

In the absence of evidence-based laboratory guidelines, the workup and interpretation of tracheal aspirate (TA) cultures remain controversial and confusing within the fields of clinical microbiology, infectious diseases, and critical care.

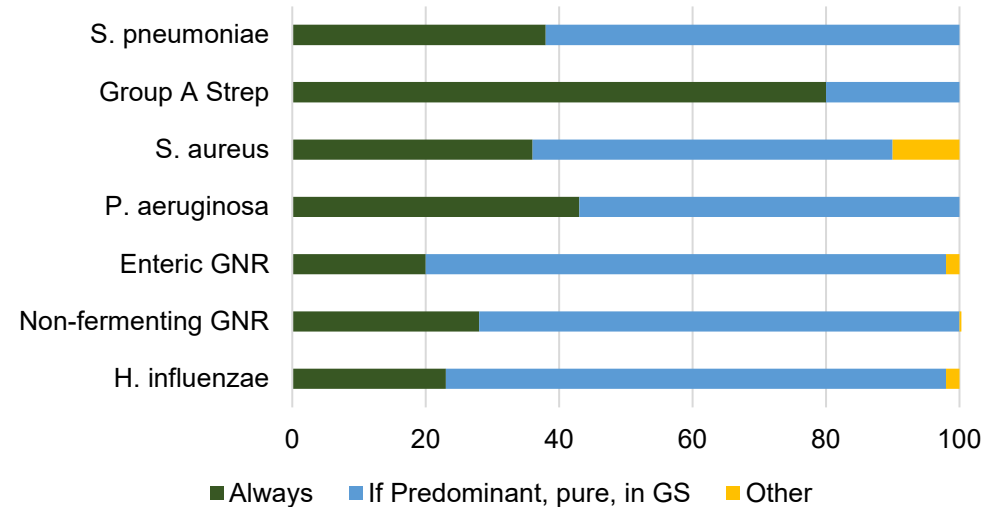
METHODS

Between January 22 and February 24, 2020, we conducted a national, web-based survey of microbiology laboratory personnel in free-standing pediatric hospitals and adult hospitals containing pediatric facilities regarding the laboratory practices used for TA specimens. We hypothesized that there would be substantial center-level variability in laboratory processes of TA cultures.

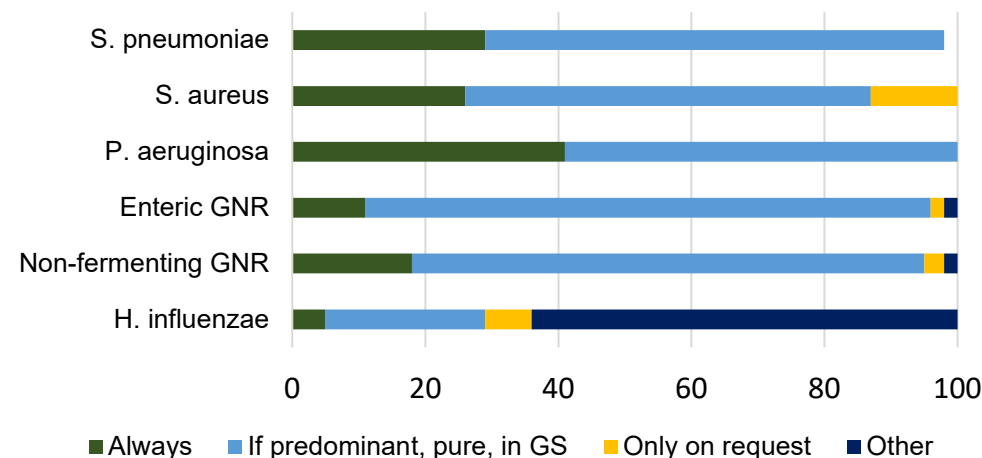
Laboratories that reject TA specimens based on Gram stain (GS) criteria (n=61)



Identification Practices by Organism (n=60)



Susceptibility Practices by Organism (n=61)



RESULTS

The response rate for the survey was 48% (73/153). There was a high level of variability in the criteria used for all processes including specimen receipt, Gram staining and culture reporting. Most respondents (77%) reported that they do not reject TA specimens based on Gram stain criteria, and 44% of labs do not require that a minimum number of Gram stain fields be reviewed prior to reporting results. Overall, non-academic hospital laboratories and pediatric-only laboratories are more likely to identify, report and perform susceptibility testing on organisms from TA cultures, regardless of organism quantity or predominance.

CONCLUSIONS

There is a substantial amount of process variability among pediatric microbiology laboratories that affects TA culture reporting, which is used to make treatment decisions. This variation among labs makes clinical outcome studies related to TA cultures very difficult. Research is needed to determine best laboratory practices for TA culture workup and to provide evidence for the development of clinical guidelines.

Want to talk about it?

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