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Provider Education and Rapid Antigen Detection Test Use in an Academic Pediatric Clinic

Steven Dahl

Children's Mercy Hospital

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Research Abstract Title

Submitting/Presenting Author (must be a trainee): Steven Dahl, MD

Primary Email Address: smdahl@cmh.edu

XFellow

Primary Mentor (one name only): Angela Myers, MD

Other authors/contributors involved in project:

Kathy Goggin, Emily Hurley, Brian Lee, Jason Newland, Andrea Bradley-Ewing, Evelyn Donis-Miranda, Kimberly Pina, Alexander Mackenzie

IRB Number: NA

Describe role of Submitting/Presenting Trainee in this project (limit 150 words):

Developed the specific aims and hypothesis of the study. Collected relevant data through chart review (with other researchers). Assisted with interpretation of results and conclusions. Wrote the initial abstract. Oversaw overall collaboration on final product.

Background, Objectives/Goal, Methods/Design, Results, Conclusions limited to 500 words

Background:

Rapid antigen detection testing (RADT) is necessary for the diagnosis of Group A Streptococcal (GAS) pharyngitis as clinical symptoms alone are not sufficient to differentiate from viral pharyngitis. Guidelines for the evaluation of GAS pharyngitis do not recommend RADT in patients with overt viral symptoms or in children < 3yo without GAS exposure.

Objectives/Goal:

We examined the impact of guideline concordant education regarding appropriate testing and antibiotic use in pharyngitis on provider (physician or APRN) RADT use in an academic pediatric primary care clinic.

Methods/Design:

120 healthy patients 1-5 years old were selected from fall 2015-2018 for retrospective chart review (32 pre and 88 post provider education). Charts were selected based on presence of sore throat, completed RADT, or diagnosis of pharyngitis or streptococcal pharyngitis. Provider education on appropriate testing and use of antibiotics in the setting of acute respiratory tract infection occurred in March 2017. Data collected included presence of viral symptoms (e.g. cough, rhinorrhea, hoarseness, etc.), results of RADT and/or throat culture, provider diagnosis, and prescribed antibiotics. RADT testing was deemed unnecessary for all children < 3yo without GAS exposure, testing in patients with ≥ 2 viral symptoms, or testing in patients ≥ 3yo without pharyngitis.

Results:

Overall RADT use decreased from pre to post intervention (59.4% vs 36.4% of patients, $p=0.036$), and was significantly reduced in physicians (59.1% vs 23.4%, $p=0.0062$), but not in APRNs (60.0% vs 51.2%, $p=0.73$). RADT testing decreased in children < 3yo (33.3% vs 4.8%, $p=0.24$) and in children with ≥ 2 viral symptoms (40.0% vs 20.0%, $p=0.17$), but neither were statistically significant. No change was seen in the overall rate of unnecessary RADT testing (25.0% vs 19.3%, $p=0.61$). There was a reduction in unnecessary RADT use by physicians, (22.7% vs 8.5%, $p=0.13$), but no change was found among APRNs (30.0% vs 31.7%, $p=0.99$).

Conclusions:

There was an overall reduction of RADT use in the post-education period, mainly attributed to reductions among physicians. RADT testing decreased in children < 3yo (29%), and in patients with 2 or more viral symptoms (20%), but was not statistically significant. This study was limited by lack of an available control group and small sample size. While results indicate positive trends in RADT reduction following provider education, additional research with larger sample size is needed to determine any direct impact.