

Effect of antipyretic therapy on the duration of illness in experimental influenza A, *Shigella sonnei*, and *Rickettsia rickettsii* infections.

[Plaisance KI¹](#),
[Kudaravalli S](#),
[Wasserman SS](#),
[Levine MM](#),
[Mackowiak PA](#)

Author information

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Abstract

STUDY OBJECTIVES:To determine whether antipyretic therapy prolongs the course of experimental influenza A, *Shigella sonnei*, and *Rickettsia rickettsii* infections.

DESIGN:Retrospective observational study. **SETTING:**University Center for Vaccine Development. **SUBJECTS:**Fifty-four volunteers with experimentally induced influenza A, 45 with *S. sonnei*, and 21 with *R. rickettsii* infections participated. **INTERVENTIONS:**Subjects from the six influenza A studies were challenged intranasally. If they met certain criteria, they were offered aspirin or acetaminophen for symptomatic relief. Subjects from the three *Shigella* studies were challenged with the bacteria and then given trimethoprim-sulfamethoxazole. Acetaminophen also could be administered. In the one *R. rickettsii* trial, subjects were inoculated intradermally and treated with tetracycline. Again, acetaminophen was administered for symptomatic relief. **MEASUREMENTS AND MAIN RESULTS:**Data, excerpted from subjects' study records, were evaluated using Wilcoxon tests, Spearman's correlation coefficients, and multiple regression analysis. Two-tailed hypotheses with a p value of 0.05 were used for all of the analyses. There was a striking correlation between antipyretic therapy and duration of illness in subjects infected with influenza A and *S. sonnei*, but not *R. rickettsii*.

CONCLUSIONS:Multivariate analysis suggested that antipyretic therapy prolonged illness in subjects infected with influenza A, but its use was the result of prolonged illness in those infected with *S. sonnei*. The precise nature of these relationships requires a prospective, randomized, placebo-controlled trial.