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No evidence for distinguishing bacterial from viral acute rhinosinusitis using symptom duration and purulent rhinorrhea: a systematic review of the evidence base.

[van den Broek MF](#)¹, [Gudden C](#), [Kluijfhout WP](#), [Stam-Slob MC](#), [Aarts MC](#), [Kaper NM](#), [van der Heijden GJ](#).

Author information

1 Department of Otorhinolaryngology and Head & Neck Surgery, Brain Center Rudolf Magnus, University Medical Center Utrecht, Utrecht, the Netherlands.

Abstract

OBJECTIVE: To evaluate the diagnostic value of symptom duration and purulent rhinorrhea in adults suspected of having acute bacterial rhinosinusitis.

DATA SOURCES: PubMed, EMBASE, and the Cochrane Library.

REVIEW METHODS: We performed a comprehensive systematic search on March 28, 2013. We included studies on the diagnostic value of duration of symptoms and purulent rhinorrhea in patients suspected of having acute bacterial rhinosinusitis. We assessed study design of included articles for directness of evidence and risk of bias. We extracted prevalence and positive and negative predictive values.

RESULTS: Of 4173 unique publications, we included 1 study with high directness of evidence and moderate risk of bias. The prior probability of bacterial rhinosinusitis was 0.29 (95% confidence interval [CI], 0.24-0.35); we could not extract posterior probabilities. Odds ratios (95% CI) from univariate analysis were 1.03 (0.78-1.36) for duration of symptoms and 2.69 (1.39-5.18) for colored discharge on the floor of the nasal cavity.

CONCLUSION AND RECOMMENDATION: We included 1 study with moderate risk of bias, reporting data in such a manner that we could not assess the value of symptom duration and purulent rhinorrhea in adults suspected of having acute bacterial rhinosinusitis. Recommendations to distinguish between a viral and a bacterial source based on purulent rhinorrhea are not supported by evidence, and the decision to prescribe antibiotic treatment should not depend on its presence. Based on judgment driven by theory and subsidiary evidence of a greater likelihood of bacterial rhinosinusitis after 10 days, antibiotic therapy may seem a reasonable empirical option.

KEYWORDS: acute bacterial rhinosinusitis; acute rhinosinusitis; acute viral rhinosinusitis; diagnosis; evidence-based medicine; nasal discharge; purulent rhinorrhea; symptom duration

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