

reflect a positive impact of the genogram. Yet type I error seems equally plausible given the number of correlations computed.

Finally, Blossom may be correct that the "newer qualitative research modes" will show how using genograms can improve clinical practice. Still, if genogram encounters have the educational and therapeutic "impact" he claims, we expect this will someday be demonstrated by traditional scientific means as well.

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### Treatment of Pharyngitis

*To the Editor:* In a letter recently published in *JABFP*, Dr. McIntyre criticizes the use of rapid streptococcal antigen tests and asks, "... why use a test that identifies less than one-half of the treatable organisms?"<sup>1</sup> From his letter it appears that he assumes mycoplasma organisms and groups C and G streptococci to be antibiotic-responsive, in addition to group A streptococci. A review of his references provides little support for his implied view that antibiotic treatment is demonstrably beneficial to patients whose throats are infected with agents other than group A streptococci. Corson, et al.<sup>2</sup> expressed the opinion that "treatment of non-group-A streptococcal pharyngitis may be warranted" but offered no supporting evidence. McCue<sup>3</sup> was unable to demonstrate clear benefit from treatment of group G streptococcal pharyngitis with penicillin V potassium or erythromycin in his relatively small series. The other papers cited by McIntyre were essentially silent on the subject of antibiotic treatment. Dr. McIntyre has called to my attention the paper by Gerber, et al.<sup>4</sup> in which group G streptococci appeared to be responsive to penicillin, but this study is inadequately controlled.

There has been a long controversy in the medical literature whether antibiotics shorten the clinical course of even group A streptococcal pharyngitis. Randolph, et al.<sup>5</sup> are probably correct in asserting that antibiotics may shorten symptoms in group A infected children to whom they are given shortly after the onset of symptoms, but I have not seen convincing evidence for effectiveness in adults, especially those who have had symptoms for more than 3 days (the question of preventing rheumatic fever is a separate issue that will not be addressed here).

The physician's desire to help patients can understandably tempt us to prescribe antibiotics for all sore throats, but there are good medical and economic reasons to avoid their use without good evidence that they are effective. Pharyngitis is so common and the economic benefit to drug companies of wide antibiotic use so substantial that studies to demonstrate their effectiveness in this context must surely have been attempted in the half century since penicillin became available. The fact that pharmaceutical representatives are not inundating us with evidence that

antimicrobials benefit patients with non-group-A pharyngitis suggests that they have not been proved effective for that purpose.

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### References

1. McIntyre FL. Management of streptococcal pharyngitis [letter]. *J Am Board Fam Pract* 1991; 4:371.
2. Corson AP, Garagusi VF, Chretien JH. Group C beta-hemolytic streptococci causing pharyngitis and scarlet fever. *South Med J* 1989; 82:1119-21.
3. McCue JD. Group G streptococcal pharyngitis. *JAMA* 1982; 248:1333-6.
4. Gerber MA, Randolph MF, Martin NJ, Rizkallah MF, Cleary PP, Kaplan, EL, et al. Community-wide outbreak of group G streptococcal pharyngitis. *Pediatrics* 1991; 87:598-603.
5. Randolph MF, Gerber MA, DeMeo KK, Wright L. Effect of antibiotic therapy on the clinical course of streptococcal pharyngitis. *J Pediatr* 1985; 106:870-5.

The above letter was referred to the author of the letter in question, who offers the following reply:

*To the Editor:* Dr. Gillette's comments are most appreciated to extend the discussion on the scientific approach to the patient with pharyngitis. My original letter clearly does not suggest physicians "prescribe antibiotics for all sore throats." The intent of the letter, however well articulated, was to point out that using the rapid strep tests encourages clinicians to evaluate pharyngitis as "strep or nothing," without considering the multiple causes of pharyngitis.

The large amount of human suffering and economic loss from pharyngitis should force us to seek out carefully with the history and physical any treatable cause of pharyngitis. Although thoughtless overtreatment exposes the patient unnecessarily to drug reactions, undertreatment has a cost also in human suffering, patient dissatisfaction, and lost time from work. In my practice, sinusitis is the most common final diagnosis in patients who present with "sore throat," and of course the standard therapy includes antibiotics. Whether due to Stoicism or parsimony in my private patients, I see very few viral-appearing upper respiratory tract infections.

Other treatable causes of pharyngitis include oral candidiasis, allergic rhinitis, pharyngeal gonorrhea, reflux esophagitis, Stevens-Johnson syndrome (if an offending agent can be withdrawn), *Corynebacterium hemolyticum*,<sup>1</sup> *Corynebacterium diphtheriae* (thankfully rarely), *Yersinia enterocolitica*,<sup>2</sup> *Chlamydia psittaci* (TWAR subspecies),<sup>3,4</sup> Lyme disease,<sup>5</sup> and probably a host of rarer diseases. Causes of pharyngitis that are recognizable (and thus reassuring to the patient) include Coxsackie virus, mononucleosis, and the primary attack of herpes simplex type I. It is not practical in moderately ill outpatients to try to elucidate the rare causes of pharyngitis, but group C streptococcal<sup>6</sup> and group G streptococcal<sup>7</sup> pharyngitis