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FROM THE EDITOR

Limiting Antibiotic Use in Acute Sinusitis: Partly a Matter of Vocabulary?

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"A vocabulary of truth and simplicity will be of service throughout your life."

– Winston Churchill

In this issue of *Journal of Patient-Centered Research and Reviews (JPCRR)*, Ginzburg et al describe successful reduction of antibiotic usage for acute sinusitis following installation of a best practice alert (BPA), which "fired" in their institution's electronic health record (EHR) when a sinusitis billing code was entered.[1] This particular EHR required such billing code placement to potentially order antibiotics for the patient's sinus-related symptoms. The BPA clinician message included a reminder that the vast majority of sinusitis cases are viral in etiology along with a link to federal sinusitis treatment guidelines.[1] Their strategy resulted in a profound reduction of antibiotic prescribing from 86.3% to 61.7% within their single New York City-based primary care clinic,[1] far surpassing the negligible reduction in prescription of broad-spectrum antibiotics for acute sinusitis (from 42.4% to 40.2%) previously reported for four intervention clinics that were provided with clinical pathways and patient education materials.[2]

While the article of Ginzburg and colleagues was in proof at *JPCRR*, another authorship team published its experience with a BPA that also fired at the time of antibiotic prescription ordering for acute sinusitis.[3] The latter study, recently published by *Journal of Managed Care & Specialty Pharmacy*, was performed in 117 primary care clinics of an integrated health system and showed no significant change (94.8% preintervention to 94.3% postintervention, P=0.152) in outpatient antibiotic prescriptions for acute sinusitis. Contents of the BPAs implemented in the two studies were similar, but not identical, and in each case the BPA could be ignored by prescribers.[1,3] The biggest difference between the two study designs was setting and scope; one was undertaken in a single (but large) urban clinic, a family medicine residency training site, and the other in numerous clinics spanning four largely rural Midwestern states. One might speculate that there was more clinician education and "buy in" at the clinic heavily staffed by residents. Otherwise, it is not clear why the results were so different.

Improper Antibiotics Use

The importance of reducing antibiotic prescriptions for acute sinusits, a predominantly viral illness, has been emphasized in recent years.[cf.4-7] Reasons for overprescription in this illness include ambiguity in diagnosis of bacterial versus viral sinusitis; uncertainty regarding possible adverse outcomes; patient expectations of, or "pressure" on, the clinician to prescribe antibiotics (and related effect on patient satisfaction); clinician beliefs regarding efficacy of antibiotics in acute sinusitis; and limited time and effectiveness of communication regarding need for antibiotics at an office visit.[5,8,9]

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Moreover, treatment options sans antibiotics are limited, cumbersome, poorly studied, or of unproven benefit.[5,7,10] Rabago and colleagues performed a randomized controlled trial of large-volume 2% buffered saline nasal irrigation on 76 subjects (54 with acute sinusitis, 13 with chronic sinusitis, 11 with both). The intervention resulted in improved sinus-related quality of life and decreased symptoms, and also decreased other sinus-related medication use.[11] Trials of intranasal steroids have suggested mild, late symptomatic improvement of acute sinusitis when used for 21 days.[12] Oral corticosteroids appear to have no role in non-antibiotic-treated sinusitis.[13]

In addition to offering symptomatic relief, previous strategies to reduce antibiotic prescription in acute sinusitis have included patient, prescriber, and public education (including in-office posters); enhancing communication between clinician and patient regarding withholding of antibiotics; implementation of clinical pathways; prescribing of delayed/reserved antibiotic prescriptions; and efforts to improve differentiation of bacterial versus viral sinusitis at the time of patient visit.[2,8,14-18] These efforts include clinical decision rules,[16] C-reactive protein point-of-care testing,[17] and the potential for procalcitonin point-of-care testing.[18] The latter two actions, along with clinical shared decision-making, were noted in a Cochrane review as exhibiting moderate-quality evidence, suggesting efficacy in reducing antibiotic prescriptions for upper respiratory tract infections (URI).[19]

Indeed, multifaceted approaches to reducing antibiotic prescribing for common nonbacterial illnesses that include careful clinician-patient/parent communication appear to be most beneficial.[8]

The Power of Labels

In shared decision-making, using the right words makes a world of difference. Here, the intricacies of vocabulary may come in to play, both in terms of choice of diagnosis code as well as communication with the patient. General and specific-agent antibiotic prescriptions have been shown to vary by U.S. geographic region and by specialty.[20] Interestingly, some geographic variation was seen in the ratio of bronchitis versus URI/common cold diagnosis within the same health system,[21] and the researchers suspected providers may have been using the bronchitis diagnosis to "justify" antibiotic prescription, even though both are very predominantly viral illnesses.

Concerned with the same issue of diagnostic labeling in bronchitis and URI, Gonzales and colleagues performed a telephone survey regarding diagnostic labels and past experiences and expectations regarding antibiotic prescriptions for bronchitis.[22] Based on the results, they recommended the use of the term "chest cold" rather than "bronchitis" when discussing with a patient their viral cough illness that could properly be diagnosed as bronchitis.[22] Other authors have embraced this concept of re-labeling diagnoses of viral respiratory infections in an attempt to aid antibiotic stewardship.[8]

Ginzburg and co-authors implemented a BPA that was highly successful in limiting antibiotic orders for acute sinusitis in their organization, but they do not detail how participating clinicians "sold" the concept of not prescribing antibiotics to their patients.[1] Without knowledge of a proven effective lexicon, I propose that clinicians re-label acute sinusitis as "a sinus cold" when speaking to patients about their diagnosis of acute sinusitis. Use of this alternative term, combined with a ready collection of "facts for antibiotic seekers" — for example, the 1 in 4000 chance antibiotics will prevent a serious complication, up to 1 in 4 chance of diarrhea, 1 in 50 chance of skin reaction, and 1 in 1000 chance of a bad reaction needing an emergency department visit[23,24] — just might do the trick.

Could the road to improved antibiotic stewardship in acute sinusitis be paved by adopting such simple tools as a well-devised best practice alert and a thoughtful change in physician vocabulary?

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