Letters to the Editor

Positive Chest Radiograph Findings Are Not Enough to Warrant Antibiotics in Patients with Acute Cough

Original Article: Identifying Outpatients with Acute Cough at Very Low Risk of Pneumonia [Point-of-Care Guides]

Issue Date: August 15, 2019

See additional reader comments at: https://www.aafp.org/afp/2019/0815/p246.html

To the Editor: Given how common it is for patients to present with acute cough in the primary care setting, I read Dr. Ebell's article with great interest, and I agree with his assessment of the trials mentioned. However, I would point out that the authors of the GRACE study, as well as the two similar U.S. studies mentioned, make the assumption that acute cough in the setting of positive chest radiograph findings establishes a diagnosis of community-acquired pneumonia (CAP) and warrants antibiotic use. Although many experts would agree with this assumption, others require the patient to meet more rigorous clinical and laboratory criteria before diagnosing CAP and prescribing antibiotics.[1]

This lack of consensus stems from a dearth of data on which patients with acute cough benefit from antibiotics and which do not. Indeed, only two placebo-controlled trials exist for patients with CAP.[2,3] These trials showed the benefit of antibiotics, but they also used more stringent inclusion criteria than simply the presence of acute cough and suggestive chest radiograph findings—both required patients to have a fever, and one required patients to have confirmed *Mycoplasma pneumoniae* infection.[2,3]

There may be a subset of patients with acute cough and suggestive radiograph findings who do not benefit from antibiotics, and even a subset of patients with a particular constellation of symptoms and negative chest radiograph findings who do benefit. We simply do not have adequate evidence to definitively state which patients will and will not benefit from antibiotics. A far more helpful study to reduce unwarranted antibiotic use would determine which patients with acute cough benefit from antibiotics and which do not, instead of which patients with acute cough will likely have positive chest radiograph findings, as existing studies demonstrate.

Finally, any discussion of identifying a patient's risk of CAP should include the increasingly widespread use of bedside ultrasonography. A lung examination with ultrasonography takes less than one minute to perform and has superior accuracy to chest radiography when using chest computed tomography as the reference standard.[4] However, it is unclear if a patient with positive ultrasound findings, especially in the context of negative radiograph findings, should receive antibiotics, underscoring the need for studies evaluating which patients with acute cough benefit from antibiotics.

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In Reply: I thank Dr. Tanael for his thoughtful letter and agree with his comments, with some caveats. He correctly notes that not all patients with radiographic CAP benefit from an antibiotic. However, because approximately 70% of patients with acute cough receive an antibiotic,[1] and only 4% of primary care patients with cough are diagnosed with CAP,[2] the larger task is reducing inappropriate antibiotic use among those without CAP rather than in those with CAP. To that end, identifying patients who are unlikely to have radiographic CAP may be helpful. In addition, as he notes, data are lacking regarding which patients with radiographic CAP benefit from an antibiotic. However, a study found that C-reactive protein has independent predictive value for identifying lower respiratory tract infections caused by a bacterial pathogen.[3] My colleagues and I are in the process of gathering prospective data on 1,400 patients with acute cough, to learn more about how to identify patients with acute cough who are unlikely to benefit from antibiotics. This study is funded by the Agency for Healthcare Research and Quality and involves data collection in Madison, Wis.; Washington, D.C.; and Athens, Ga. Reducing

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This series is coordinated by Kenny Lin, MD, MPH, deputy editor.

inappropriate antibiotic use in patients with nonpneumonia lower respiratory tract infections by 30% would yield a much larger benefit than reducing antibiotic use in patients with CAP by the same amount.

Regarding ultrasonography, I agree that it has good accuracy for the diagnosis of pneumonia in the hands of adequately trained clinicians. However, as Dr. Tanael notes, it is unclear how ultrasound-diagnosed CAP differs from radiographically diagnosed CAP in terms of the benefit (or lack of benefit) of antibiotics.

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Editor's Note: Dr. Ebell is Deputy Editor for Evidence-Based Medicine for AFP.

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Screening for Atrial Fibrillation to Initiate Stroke-Protective Therapy

Original Article: Downsides of Detecting Atrial Fibrillation in Asymptomatic Patients [Editorials]

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See additional reader comments at: https://www.aafp.org/afp/2019/0315/p354.html

To the Editor: Stroke is rightly one of the most feared diseases of our times, having the devastating potential of leaving a person severely disabled within minutes. Furthermore, strokes brought on by emboli from atrial fibrillation (AF) are more likely to cause disability or death compared with other causes of stroke. Fortunately, AF-related strokes can be prevented if a person is aware of the disease. In their editorial, Drs. Mandrola and Foy argued that practical difficulties occur when trying to find patients with asymptomatic AF to start prescribing stroke-protective therapy. But are the difficulties practical?

Low Prevalence in the Screened Population. Drs. Mandrola and Foy state in the editorial that 0.5% of new AF was detected in the STROKESTOP study, but this is misleading. We conducted a large screening study and detected 3% of patients with new AF, and in total 5% of patients had untreated AF. Hence, the number needed to screen is 33 to detect one patient with new AF or 20 to detect one patient with untreated AF.[1] For comparison, 2,451 women would need to be screened with mammography for five years to prevent one cancer-related death.[2]

Excess Costs Associated with Screening. In the Swedish STROKESTOP study, health economists estimated the cost of avoiding one stroke based on screening at $8,315.[3] The social lifetime present value cost for stroke in 2009 was estimated at $86,902.[4] Indeed, screening for AF in patients who have already had a stroke has been shown to save money.[5]

Poor Specificity for AF Screening. In a recent health technology assessment, specificity ranged from 97% with 12-lead electrocardiography to 94% using single-lead electrocardiography.[6] The merit of a screening test is rarely solely based on specificity because a false-negative test would commonly be of greater importance, making a missed diagnosis of AF a greater worry than specificities in the range of 94% to 97%.

Lack of Direct Evidence. No study has yet shown that screening for AF can reduce stroke. We agree that the lack of direct evidence is an acceptable argument against screening. Physicians with concerns about screening their patients for this potentially life-threatening condition can wait for the results of ongoing trials.

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In Reply: We thank Drs. Svennberg, Engdahl, and Rosenqvist for their interest in our editorial on AF screening.[1]

We agree that stroke is a devastating disease and that anticoagulant therapy reduces stroke risk when used in patients similar to those in clinical trials.

Regarding their point on the low prevalence of AF, we disagree that our use of the 0.5% new AF detection from the STROKESTOP study was misleading.[2] It is true that STROKESTOP detected AF in 3% of patients overall; we chose 0.5% specifically because it measured the rate of detecting AF with a single screening electrocardiogram. Most of the AF detection in the STROKESTOP study (140 of 218 new cases) occurred with serial intermittent electrocardiography recordings. Our editorial addressed the use of electrocardiography, so we believed that using the detection rate of the index electrocardiogram was most appropriate.

Regarding cost, we consider our estimates to be conservative given that we assigned yearly costs of oral anticoagulants of $100, and we excluded the downstream costs of incidental findings and misdiagnoses. Downstream testing in the fee-for-service U.S. health care system could be massive. Also, it is not possible to estimate the cost effectiveness of an initiative without first knowing that it is useful. Namely, we don't know whether oral anticoagulation will provide net clinical benefit to patients with subclinical screen-detected AF.

We respectfully disagree with Drs. Svennberg, Engdahl, and Rosenqvist on the matter of specificity. Given the low overall prevalence of AF in the general population, even in the elderly, incorrectly telling hundreds of thousands, perhaps millions, of people that they have AF could cause direct harm from anticoagulant-related bleeding and indirect harm from the anxiety of being labeled with a heart condition.

The only way to sort the benefits and harms of AF screening is with a randomized screening trial. As Wilson and Jungner stated in 1968: "The object of screening for disease is to discover those among the apparently well who are in fact suffering from disease…In theory, therefore, screening is an admirable method of combating disease...In practice, there are snags."[3]

As practicing physicians, we are deeply concerned about the snags of AF screening.

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Physicians Can Help Patients Begin Grieving Process for Loss of a Loved One

Original Article: Helping Patients Cope with Grief [Curbside Consultation]

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See additional reader comments at: https://www.aafp.org/afp/2019/0701/p54.html

To the Editor: Dr. Dudley's Curbside Consultation about helping patients cope with grief made helpful suggestions. I have found, especially when managing patients at the outset of the grieving process, that they commonly have difficulty with the direct circumstances surrounding the loss of their loved one. They may have guilt about not doing enough or not being there at the moment of death. They may feel angry because they believe that the medical professionals failed to care for their loved one properly or that they did not get to say a proper goodbye.

Addressing the particulars around the death of the loved one allows my patients to begin to grieve for the loss, rather than focus on how the loved one died.

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In Reply: I appreciate Dr. Rosen's kind words. Grief is indeed a complicated process that all of us must go through, often more than once. Emotions run the gamut from guilt to anger and sadness. Although these can be expected, occasionally puzzling emotions present themselves, such as relief and increased libido. Patients can sometimes be troubled by their own emotions. No one experiences grief in the same way, and I find that it is helpful to validate what patients are experiencing as a normal stepping stone to healing.

My Curbside Consultation just touched the surface of the many facets of grief. It is my hope that it will open the conversation to more dialogue on this topic from seasoned physicians such as Dr. Rosen.

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