rhythmic drugs, since often the presumed requirement for such drugs discourages cardioversion.

The explanation for NESMAM is obscure. The abnormal annulus motion coincides with the timing of atrial relaxation had there been a sinus rhythm. A stiff atrium may relate, for example, to the loss of myofibrils, to collagen formation, or to interstitial fibrosis. Indeed, this pathologic process may not reflect a causative disease per se but rather an adaptive process reflecting the duration of the AF (so-called remodeling). These processes coincide with the electrophysiologic remodeling that explains why AF more often recurs or is more easily induced after there has been faster or longer lasting arrhythmia (“AF begets AF”), albeit these could be independent processes. It is further confusing that lone AF with a chronic uncontrolled ventricular response could cause tachycardia-induced cardiomyopathy. Is the AF then to be called lone AF?

In sum, it is unclear whether NESMAM identifies lone AF patients who indeed have structural changes that require further elucidation (and, technically, do not have lone AF) or whether AF itself causes the structural changes that lead to NESMAM, predisposing the patient to recurrence. Thus, the work of Paraskevaidis et al should not only stimulate confirmation of this practical guide to cardioversion but also investigation into better explanations for the occurrence of apparent lone AF.

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Is There a Role for Routine Surveillance Endotracheal Aspirate Cultures in the Treatment of BAL-Confirmed Ventilator-Associated Pneumonia?

Ventilator-associated pneumonia (VAP) is the major cause of infection in critically ill patients who are receiving mechanical ventilation, with a prevalence of 8 to 28%, and is one of the leading causes of death from hospital-acquired infections in critical care units. VAP is also associated with prolonged hospitalization and increased health-care costs. There is no doubt that the diagnosis of VAP remains one of the most controversial and challenging topics in the management of patients receiving mechanical ventilation. In general, the most acceptable standards for the diagnosis of VAP require quantitative cultures of BAL fluid or protected specimen brush (PSB) samples. Using 106 cfu/mL as the interpretative cutoff point for respiratory secretion cultures from endotracheal aspirates (EAs) has a comparable accuracy compared to that with the PSB technique, with a higher sensitivity (82%) and a lower specificity (83%). However, as soon as a lower threshold is used, specificity declined significantly. Irrespective of which standard is chosen, there is still an inherent delay from the time the BAL fluid, PSB, or EA specimen was obtained to the availability of the culture reports. In practice, patients who are suspected to have VAP would be started on empiric therapy pending culture results.

The main problem in dealing with patients who have a high clinical suspicion of VAP is the striking of a balance between avoiding a delay in initiating appropriate antibiotic therapy and reducing the inappropriate use of broad-spectrum antibiotics. Patients who are initially treated inadequately had poorer outcomes than those who received adequate antibiotic coverage at the beginning. Thus, in clinical practice, initial broad-spectrum antibiotic therapy in patients in whom there
is a high suspicion of VAP is the usual approach. However, it has been obvious that the emergence of resistance pathogens, especially in critical care units, is linked to the overuse of antibiotics.

In this issue of CHEST (see page 589), Michel et al proposed twice weekly surveillance quantitative cultures of EAs in all intubated patients who were receiving mechanical ventilation as a means of assisting in the choice of antibiotic therapies when the presence of VAP was subsequently suspected. The authors reported that pre-VAP EA cultures identified the same pathogens with similar antibiotic susceptibility patterns compared to the results of BAL fluid cultures obtained when VAP was suspected in 34 of 41 cases (83%). Antibiotic selection based on the available results of pre-VAP EA cultures was adequate in 38 of 40 patients (95%). In contrast, had the American Thoracic Society guidelines and Trouillet guidelines been used, the empiric antibiotic treatment would have been adequate in 68% and 83% of patients, respectively. The main reason for the inadequate coverage using the published guidelines was the failure of the guidelines to inform the empiric treatment selection in the coverage of highly resistant pathogens. In addition to the better coverage, antibiotic selection based on the results of pre-VAP EA cultures also reduced the unnecessary use of some antibiotics like the β-lactams compared to strategies based on the American Thoracic Society and Trouillet guidelines. The results of this study suggest that twice-weekly quantitative surveillance cultures of EAs may assist in the early prescription of appropriate antibiotic treatments for patients who develop VAP. This strategy may improve clinical outcomes, potentially may reduce antibiotic resistance in patients in critical care units and related complications, and may reduce hospitalization costs.

However, before the large-scale adoption of the surveillance EA culture strategy, we should address the following important issues related to surveillance EA cultures. First, this is an exciting investigation, but it is still a small study that includes only 41 cases of VAP confirmed by BAL fluid cultures. Second, this study used 10^3 cfu/mL as an interpretative cutoff point for the surveillance culture EA specimens, which is substantially lower than the cutoff points used for diagnosing VAP (ie, 10^6 to 10^7 cfu/mL). Despite the low cutoff points used for the surveillance EA cultures, the study by Michel et al reported a surprisingly high concordance (83%) between pre-VAP BAL fluid and EA cultures at a cutoff point of 10^3 cfu/mL. Clearly, a larger scale study using the same strategy with similar success is needed. Third, there was still a 5% rate of false-negative results in pre-VAP EA cultures, which stresses that negative results of surveillance EA cultures cannot exclude a diagnosis of VAP.

Fourth, this study did not focus on clinical outcomes. Thus, there were no available data to indicate whether a strategy of using surveillance EA quantitative cultures leads to better patient survival or to the reduction of critical care unit or hospital stays. Last, the cost of routine surveillance EA quantitative cultures in all patients receiving mechanical ventilation is clearly an important consideration.

In summary, before we can recommend the use of surveillance EA quantitative cultures as routine practice, a randomized controlled trial of this strategy compared to the current practice is needed in order to assess whether the new strategy can improve survival, control bacterial pathogen resistance, and finally reduce hospitalization costs.

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Emergent Asthma

Endogenous, Exogenous, or Iatrogenous

In search for the possible causes of the emerging and persistent increase in the prevalence of asthma, Enelli et al in this issue of CHEST (see page 604) consider the evidence that the occasional, frequent, or prolonged intake of the analgesic acetaminophen (N-acetyl-p-aminophenol [APAP], or paracetamol) might be a contributing etiologic factor. As the authors speculate, APAP could account for pulmonary glutathione depletion, oxidative stress, T-helper type 2 (Th-2) vs T-helper type 1 dominance, leukotriene C4 and D4 formation, or cyclooxygenase-2–induced prostaglandin E2, which favors a Th-2 response and thus an allergic tendency. But whatever the case might be, it must be recognized that this “reversible” or variable obstructive intrabronchial disease is a clinical manifestation of diverse etiology, course, and prognosis. To study all “asthmatics” as a single set, either for basic research or for epidemiologic surveys, would be incorrect and potentially misleading. The results of any long-term risk assessment will have to be interpreted in the perspective of the spectrum of specific circumstances and of known or suspected influences.

Almost 40 years ago, in 1966, when the husband-and-wife team of the Ishizakas in Denver identified the reaginic antibody Ig E (IgE) [the “E” chosen to refer to the wheal and erythema skin reaction] as the major endogenous component of allergy, headlines in some popular news media announced a “breakthrough in asthma.” But, contrary to a projected “optimistic future,” allergic diseases and the various kinds of asthma have persistently become more widespread and, not infrequently, more severe, requiring continuous daily medication that may include antiinflammatory steroids, the use of which in earlier decades had been called “malpractice.” This significant epidemiologic phenomenon of emergent asthma has evoked the notion of “a new disease,” which 4 centuries ago was applied to the novel appearance of rickets. If iatrogenous (not iatrogenic, which literally means causing, not caused by, medical intervention) processes are found to be responsible for that, an analogy would seem appropriate with the fate of the mythical Greek king Oedipus, who pledged to relieve his city of the plague, not aware that the cause of it was himself, due to the “pollution” of his patricide and incest. Whether or not the main features of the modern “plague” relate to medical and health-care practices, a realistic appraisal of the available data ought to guide further self-examination and critical assessment.

The classification of asthma into extrinsic and intrinsic, first proposed by Rackemann, has endured. Additionally, distinctions between mild, moderate, and severe have helped formulate appropriate therapeutic guidelines. Naturally, age, sex, occupation, home environment, and variability patterns, etc. have helped to distinguish subgroups. One diagnostic category, the atopic syndrome, is a phenotypic response to external natural or man-made environmental and dietary antigens among individuals with an inheritable capacity to produce specific IgE antibodies. The correlation of an elevated asthma risk with the early onset of atopic eczema, in the first 6 months of life, questions the role of microbial immunity and/or drug-induced alterations in the airways, events that generally are subsequent to the first manifestations of dermatitis.

Elevated IgE, characteristic of atopic sensitization, at 1 year of age, has been reported to be a predictive index for asthma by the age of 2 years. In that study, the risk could be significantly reduced by medical advice for environmental control and breast feeding. Prenatal influences, including maternal use of APAP, have been associated with an increased incidence of allergy in the child. More precisely, antenatal cytokine production, detected with changes in cord blood interleukins (ILs), among them IL-6, IL-10, interferon-γ, and other mediators, appeared to herald the development of allergic disease by the age of 6 years. In general, infections have been repeatedly considered—not only by clinicians but also by the patients’ families—as the most important triggers of paroxysmal asthma. Until not very long ago, empirical formulations of bacterial vaccines were—and still seem to be in certain limited practices—part of the maintenance immunotherapy injection program for asthma. Current data incriminating specific infectious agents in acute attacks or an exacerbation of persistent asthma indicate the need for further controlled studies.