However, the main purpose of the study was to assess quality of home mechanical ventilation (HMV), are very refreshing as the treatment, and they feel secure with this. We disagree when you say that we have equated noninvasive ventilation (NIV) only with tracheostomy also provides a good QoL. We conclude that the patients probably received the tracheostomy as an acute lifesaving option.3 In two large series (almost 30,000 blood cultures analyzed), all patients with positive anaerobic culture results had very strong pretest probability (ie, clinical suspicion) that such an etiology of bacteremia was likely.2,4 Thus, it would appear that anaerobic bottles do not need to be routinely included in ICU blood culture sets; rather, they should be used only in cases where an anaerobic culture is deemed to be clinically indicated.

Second, arguably the major problem with blood cultures is the relatively high proportion of false-positive results. The authors discussed this issue quite nicely in their article. In our ICU, to better deal with this pervasive problem, we have opted to define a “blood culture set” not as two blood culture bottles from one blood culture set, but as any two blood culture bottles from two separate venipuncture sites (as proposed by Shafazand and Weinacker3), but as two anatomically separate venipuncture sites obtained at one point in time, with one or two blood culture bottles being filled from each site. In other words, in our ICU, a blood culture set refers to a point in time when blood cultures were obtained, and each set includes a minimum of two separate venipuncture sites (a total of six venipunctures for all three sets). Because anaerobic bottles are not routinely needed, for most patients the number of blood and after glossopharyngeal breathing in patients receiving ventilation both by NIV and by tracheostomy.

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REFERENCES


To the Editor:

The comments on our article published in CHEST, about home mechanical ventilation (HMV), are very refreshing as the results of the study elucidated those same questions by us. However, the main purpose of the study was to assess quality of life (QoL) of patients receiving HMV. The study was retrospective, and the purpose was never to relate QoL with lung mechanics, different modes of mechanical ventilation, or blood gases. Several studies1–3 have shown that QoL is not related to such specific measurable values, but is related instead to the patient’s coping ability. Because treatment with HMV has increased in Sweden, we wanted to see how our patients with different diagnoses perceived their QoL, using HVM. We wanted also, to elucidate how our patients with chronic respiratory insufficiency were initiated and treated during a period of 20 years. The unique knowledge of our clinic in making individually fitted tracheal cannulas should be kept in mind. These patients were never able to choose one treatment or another, as most of them probably received the tracheostomy as an acute lifesaving treatment, and they feel secure with this. We disagree when you say that we have equated noninvasive ventilation (NIV) only with mask ventilation. The results show that ventilation by tracheostomy also provides a good QoL. We conclude that the patients treated with both NIV and invasive HMV reported a good QoL.

As a result of this study, we have started to look into the questions raised in Dr. Bach’s comments. We hope to publish the result this year, but we still must remember that this is a retrospective study. I can only apologize for having forgotten your references. To sum up, our article is not a comparison study of which method is best for ventilation of patients with chronic respiratory insufficiency. The results show that, despite severe physical limitations, patients receiving HMV perceived good QoL. It is mandatory to optimize both treatment with tracheostomy with good, individually fitted cannulas and compliance during NIV. We consider it a strength to be able to offer both treatment options for patients with chronic respiratory insufficiency. This is a very important message. Because treatment with HMV has increased in Sweden, it is important to show that long-time survival is improved by HMV, and the QoL is also good.

I am fully aware that NIV needs manually or mechanically assisted coughing methods. For the moment, we are preparing a prospective study where vital capacity will be compared before and after glossopharyngeal breathing in patients receiving ventilation both by NIV and by tracheostomy.

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Modification of Blood Culture Recommendations?

To the Editor:

I have read with great interest the excellent review by Shafazand and Weinacker on the use of blood cultures taken from patients in the critical care unit (November 2002).1 Indeed, problems with false-positive and even false-negative results have long been a bane for all of us who work in the ICU environment. While agreeing with almost everything that the authors said, I do want to suggest two modifications to their recommendations, listed on Table 2 (page 1729).

First, published data2–4 strongly suggest that the diagnostic yield of routine anaerobic blood cultures is virtually nil (< 1%); in fact, plating a second aerobic bottle may be a better diagnostic option.3 In two large series (almost 30,000 blood cultures analyzed), all patients with positive anaerobic culture results had very strong pretest probability (ie, clinical suspicion) that such an etiology of bacteremia was likely.2,4 Thus, it would appear that anaerobic bottles do not need to be routinely included in ICU blood culture sets; rather, they should be used only in cases where an anaerobic culture is deemed to be clinically indicated.

Second, arguably the major problem with blood cultures is the relatively high proportion of false-positive results. The authors discussed this issue quite nicely in their article. In our ICU, to better deal with this pervasive problem, we have opted to define a “blood culture set” not as two blood culture bottles from one venipuncture site (as proposed by Shafazand and Weinacker3), but as two anatomically separate venipuncture sites obtained at one point in time, with one or two blood culture bottles being filled from each site. In other words, in our ICU, a blood culture set refers to a point in time when blood cultures were obtained, and each set includes a minimum of two separate venipuncture sites. For example, if a patient is to have three blood culture sets drawn, this means that he or she will be sampled at three different points in time over a 24-h period, each time having blood drawn from two separate venipuncture sites (a total of six venipunctures for all three sets). Because anaerobic bottles are not routinely needed, for most patients the number of blood

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culture bottles to be processed would remain the same, but by this proposed definition each “set” would have its own built-in quality control: ie, a true-positive blood culture result requires that the culture from both sites sampled at the same point in time be positive for the same organism(s).

Finally, I wish to reemphasize the authors’ recommendation that blood cultures from IV catheters should never be used by themselves to diagnose bacteremia—for this purpose, catheter cultures must be coupled with a set of standard peripheral blood cultures.

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To the Editor:

We appreciate Dr. Berger’s comments regarding our review (November 2002) of blood cultures in the critical care unit. We agree with him that the incidence of anaerobic bacteremia has decreased in the past few decades. Nonetheless, some studies have demonstrated that the number of positive anaerobic cultures is not trivial and that the mortality rate associated with anaerobic bacteremia remains high. In a study of 281,797 blood cultures at the Mayo Clinic performed between 1984 and 1992, 920 of the organisms (3%) recovered were obligate anaerobes. Thus, many experts continue to recommend the routine use of anaerobic blood cultures. In fact, one such recommendation was made in the editorial accompanying the study by Ortiz and Sande, which was cited by Dr. Berger.

Although some experts agree with Dr. Berger’s suggestion that anaerobic cultures be used only when the clinical suspicion for anaerobic infection is high, this approach would obviously require consistent communication between clinicians and the microbiology laboratory. At this time, the most cost-effective approach to the diagnosis of anaerobic bacteremia is unclear. In our institution and others, the cost of an anaerobic culture is the same as the cost of an aerobic culture, and many institutions continue to routinely perform anaerobic cultures. At the Mayo Clinic, a blood culture set consists of blood inoculated into two aerobic bottles and one anaerobic bottle (Franklin R. Cockerill III, MD; personal communication; February 27, 2003). In our own institution, when blood cultures are indicated, we typically order two sets simultaneously (ie, blood is drawn from two separate sites), and our laboratory inoculates blood from the first set into both an aerobic bottle and an anaerobic bottle. The second set is inoculated into two aerobic bottles. Both of these approaches increase the yield of blood cultures by culturing a large volume of blood in multiple bottles, without taking the risk of missing an anaerobic infection. Both approaches differ slightly from the recommendation we made in Table 2, but in principle they support our recommendation for the routine anaerobic culturing of blood. An added benefit of routinely performing anaerobic blood cultures is that some facultative aerobes grow faster in anaerobic media than in aerobic media.

Regarding Dr. Berger’s second point, we completely agree that to minimize the number of false-positive cultures, blood should be drawn from more than one puncture site. The optimal timing of these separate vascular punctures is unclear, althoughdrawing blood from two or three sites within a 24-h period appears to be adequate to detect bacteremia in most patients. Although we have chosen to define blood culture sets differently from Dr. Berger, in principle it seems we are in complete agreement.

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Anaerobic Blood Cultures
Useful in the ICU?

To the Editor:

We read with interest the article by Shafazand and Weinacker (November 2002) concerning the utility and limitations of obtaining blood cultures in the intensive care setting. The article is both well-written and informative. The authors, however, failed to discuss the routine use of anaerobic blood cultures. While this topic is somewhat controversial, it deserves recognition.

As Shafazand and Weinacker indicated, blood cultures often are included in the assessment of the febrile hospitalized patient.