Use of Active Surveillance Cultures in Intensive Care Units

To the Editor—I appreciated the systematic review by McGinigle et al. [1] of active surveillance cultures (ASCs) for methicillin-resistant Staphylococcus aureus (MRSA) in the intensive care unit (ICU) but question their conclusions about the lack of enough robust evidence to provide definitive recommendations for the use of ASCs in the control of MRSA infection. The authors included 20 studies, but only 13 of these studies seem to be original intervention studies that assess the effect of ASCs on the rate of MRSA infection. In addition, as the authors indicate, the methodology and/or robustness of many of these studies are not optimal.

Because I have been interested in this subject for many years, I have collected the literature on another 7 published nonpediatric and nonneonatal ICU studies that merit inclusion in the systematic review by McGinigle et al. [1–8], as well as another 6 neonatal and/or pediatric ICU studies (not referenced). It would be interesting to understand why these adult ICU studies were not included in the systematic review by McGinigle et al. [1]. Three of these studies were interrupted-time series, and 1 was a controlled before-and-after study; both of these methodologies are fairly robust. It is true that not all of the studies included weekly ASCs, but this seems to be a questionable exclusion criteria if a reduction in the rate of MRSA infection was still reported. However, the consistency of positive findings in the adult ICU studies is worth emphasizing (i.e., ASCs can aid in the control of MRSA infection in the ICU, particularly when ASCs are combined with at least 1 of the following: patient and environmental decontamination and hand-hygiene initiatives).

It is noteworthy that, of the 20 studies (13 in the systematic review and the 7 aforementioned adult ICU studies), only 3 do not mention use of additional hygiene and/or decontamination procedures (4 of 26 studies, if the neonatal and/or pediatric ICU studies are also considered). Moreover, although all but 1 study reported a reduction in the rate of MRSA infection after introduction of ASCs, this 1 study was notable for its poor hand-hygiene compliance, late isolation of MRSA-positive patients, and absence of any decontamination or disinfection.

Finally, the rating of high-quality interrupted-time series as only “fair” evidence by McGinigle et al. [1] is debatable. The most important difference between my interpretation of the data and that of McGinigle and colleagues is my observation of the consistency, strength, temporal relationship, and plausibility of the evidence; this insight led me to conclude that ASCs should be recommended as standard practice, particularly in high-risk areas, such as ICUs, where there is a high rate of hospital-acquired MRSA infection and a great risk of MRSA infection.

Incidentally, my colleagues and I conducted a study [9] (which was incorrectly referenced in the systematic review) that demonstrated a two-thirds reduction in the rate of MRSA infection (a decrease from >15% to ∼5% of ICU admissions, not the 11% reduction stated in the systematic review by McGinigle et al. [1]). Moreover, this reduction was entirely attributable to a reduction in the number of MRSA isolates from clinical specimens, not screening specimens. Although the number of MRSA isolates is only a surrogate for infection, it is more closely indicative of infection than colonization; that the number of MRSA isolates is a surrogate marker of colonization was wrongly implied by Milstone and Perl [10] in their accompanying editorial commentary. In support of the number of MRSA isolates being a surrogate marker of infection, there was a significant reduction in both length of stay and glycopeptide use associated with the introduction of ASCs.

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References

5. Cepeda JA, Whitehouse T, Cooper B, et al. Isolation of patients in single rooms or cohorts to reduce spread of MRSA in intensive-care


