

Use of Blood Culture Systems for Isolation of *Kingella kingae* from Synovial Fluid

I read with interest the recently published report by Lebjkowitz et al. on the isolation of *Kingella kingae* from a BacT/Alert blood culture bottle seeded with synovial fluid (3). For most of 3 decades that lapsed since the first characterization of the organism by Elizabeth King, *K. kingae* was considered a rare cause of human infection (4). Inoculation of synovial fluid specimens into blood culture bottles resulted in improved isolation of the organism and recognition of *K. kingae* as a common cause of skeletal infections in young children (1, 2, 5–7). In the last few years, *K. kingae* has been successfully recovered from joint taps of pediatric patients with septic arthritis by using the radiometric BACTEC 460, the BACTEC 660NR (nonradiometric), and the BACTEC 9240 blood culture systems as well as the Isolator 1.5 Microbial Tube (1, 2, 5, 7). The report by Lebjkowitz et al. adds another blood culture system to the list of nonconventional culture methods that enable detection of *K. kingae* from synovial fluid, whereas primary cultures on routine solid media frequently fail to isolate the bacterium (1–3, 5, 7). It should be pointed out that in Lebjkowitz's experience as well as in other studies, the organism was recovered in subcultures of the broth performed on the same media without difficulties, excluding the possibility that solid media do not support bacterial growth (1–3, 5, 7).

It appears that synovial fluid exerts an inhibitory effect upon the growth of *K. kingae*. Dilution of these undefined detrimental factors into a large volume of broth to below the inhibitory concentration improves the chances of recovering this fastidious microorganism (5). Compared to the results of routine cultures on agar plates, the increased isolation of the organism and the higher bacterial counts in synovial fluid cultures obtained by the Isolator system suggest that the release of phagocytized but still viable organisms by the lysis step also contributes to improving recovery (7).

It is to be expected that widespread use of blood culture systems for routine culture of joint tap fluid of young patients with septic arthritis will improve the detection of *K. kingae* and improve our knowledge of this emerging pathogen.

REFERENCES

1. Birgisson, H., O. Steingrimsen, and T. Gudnason. 1997. *Kingella kingae* infections in pediatric patients: 5 cases of septic arthritis, osteomyelitis and bacteraemia. *Scand. J. Infect. Dis.* **29**:495–498.
2. La Scola, B., I. Iorgulescu, and G. Bollini. 1998. Five cases of *Kingella kingae* skeletal infection in a French hospital. *Eur. J. Microbiol. Infect. Dis.* **17**:512–515.
3. Lebjkowitz, F., L. Cohn, N. Hashman, and I. Kassis. 1999. Recovery of *Kingella kingae* from blood and synovial fluid of two pediatric patients by using the BacT/Alert system. *J. Clin. Microbiol.* **37**:878.
4. Verbruggen, A. M., D. Hauglustaine, L. van der Hauwert, J. J. Rombouts, G. W. Wauters, and J. Vanderpitte. 1986. Infections caused by *Kingella kingae*: report of four cases and review. *J. Infect.* **13**:133–142.
5. Yagupsky, P., R. Dagan, C. B. Howard, M. Einhorn, I. Kassis, and A. Simu. 1992. High prevalence of *Kingella kingae* in joint fluid from children with septic arthritis revealed by the BACTEC blood culture system. *J. Clin. Microbiol.* **30**:1278–1281.
6. Yagupsky, P., Y. Bar-Ziv, C. B. Howard, and R. Dagan. 1995. Epidemiology, etiology and clinical features of septic arthritis in children younger than 24 months. *Arch. Pediatr. Adolesc. Med.* **149**:537–540.
7. Yagupsky, P., and J. Press. 1997. Use of the Isolator 1.5 Microbial Tube for culture of synovial fluid from patients with septic arthritis. *J. Clin. Microbiol.* **35**:2410–2415.

Pablo Yagupsky
Clinical Microbiology Laboratory
Soroka Medical Center
Ben-Gurion University of the Negev
Beer-Sheva 84101, Israel

Ed. Note: The authors of the published article did not respond.