clearly positive with lactoferrin controls), coarse agglutination with the control antibody as provided by TechLab might provide a clue that breast milk may be present in the specimen.

In conclusion, our experience and experiences in several other laboratories would certainly concur with that of Quiroga and colleagues; fecal lactoferrin appears to be a more sensitive test than fecal leukocytes in the evaluation of patients with acute diarrhea. However, as with any laboratory test, this should be interpreted in the context of the clinical presentation (which, with fecal lactoferrin, may include the possibility of false positives with breast-fed infants when tested with certain antibodies).

REFERENCES

1. **Anderson, D. E., J. Kramp, J. Claridge, M. B. Baker, E. M. Latimer, and D. M. Lyerly.** 1994. Detection and stability of lactoferrin in fecal leukocytes by latex agglutination compared to microscopic evaluation, abstr. C-398, p. 560. Abstr. 94th Annu. Meet. Am. Soc. Microbiol. 1994. American Society for Microbiology, Washington, D.C.
2. **Croft, S., P. Newcomb-Gayman, and K. Carroll.** 1994. Comparison of the Leuko-test latex agglutination assay with the methylene blue stain for the detection of fecal leukocytes, abstr. C-396, p. 560. Abstr. 94th Annu. Meet. Am. Soc. Microbiol. 1994. American Society for Microbiology, Washington, D.C.
3. **Derisbourg, P., J.-M. Wieruszeski, J. Montreuil, and G. Spik.** 1990. Primary structure of glycans isolated from human leucocyte lactotransferrin. Biochem. J. **269:**821–825.
4. **Guerrant, R. L., V. Araujo, E. Soares, K. Kotloff, A. A. M. Lima, W. H. Cooper, and A. G. Lee.** 1992. Measurement of fecal lactoferrin as a marker of fecal leukocytes. J. Clin. Microbiol. **30:**1238–1242.
5. **Guerrant, R. L., L. V. Kirchhoff, D. S. Shields, M. K. Nations, J. Leslie, M. A. de Souza, et al.** 1983. Prospective study of diarrheal illnesses in northeastern Brazil: patterns of disease, nutritional impact, etiologies, and risk factors. J. Infect. Dis. **148:**986–997.
6. **Miller, J. R., L. Barrett, K. Kotloff, and R. L. Guerrant.** Antilactoferrin antibody latex bead agglutination assay as a rapid diagnostic test for inflammatory enteritis. Arch. Intern. Med., in press.
7. **Scerpella, E. G., P. C. Okhuysen, J. J. Mathewson, R. L. Guerrant, E. Latimer, D. Lyerly, et al.** 1994. Evaluation of a new latex agglutination test for fecal lactoferrin in travelers' diarrhea. J. Travel Med. **1:**4–7.
8. **Thornton, S., T. O'Brien, J. Callahan, T. Sharp, R. Batchelor, P. Rozmajzl, M. Wallace, and J. Burans.** 1994. Evaluation of a rapid latex test for detection of lactoferrin in stool, abstr. C-397, p. 560. Abstr. 94th Annu. Meet. Am. Soc. Microbiol. 1994. American Society for Microbiology, Washington, D.C.
9. **Yong, W. H., A. R. Mattia, and M. J. Ferraro.** 1994. Comparison of fecal lactoferrin latex agglutination assay and methylene blue microscopy for detection of fecal leukocytes in *Clostridium difficile*-associated disease. J. Clin. Microbiol. **32:**1360–1361.

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Use of Selective Media for Isolating *Corynebacterium urealyticum* from Urine Specimens

Corynebacterium urealyticum, formerly known as *Corynebacterium* group D2, is a new species in the genus *Corynebacterium* (3) which has been involved mainly in urinary tract infections but also in endocarditis, pneumonia, peritonitis, osteomyelitis, and soft-tissue infections (1, 5, 6). The clinical significance of most organisms isolated from normally sterile sites such as the kidney, the bladder wall, the ureter, and blood is relatively easy to determine. However, that of organisms isolated from nonsterile areas, such as urine or sputum, is more difficult to assess.

Ryan and Murray (4) have recently examined the value of selective media for isolation of *C. urealyticum* from urine samples as well as determination of the clinical relevance of such isolates. They studied 194 urine samples which had pHs of $\geq$7.0, finding two isolates of *C. urealyticum* (prevalence, 1% in urine samples with such a pH) which were not related to the urinary tract infectin symptoms. This finding partially confirms those of a previously published paper which included more than 9,000 unselected urine samples showing a prevalence of 1.17% with selective media but only 0.038% with nonselective media (7). Unsurprisingly, most or all of the 15 organisms isolated from 13 patients by using selective media were not involved in the clinical symptoms, but those isolated from three patients by using nonselective media were (7). De Briel et al. (2), by studying more than 5,000 unselected urine samples, isolated *C. urealyticum* in 2.5% ($\geq 10^5$ CFU/ml) of the urine samples using selective and nonselective culture media (2). Our rates of *C. urealyticum* isolation from unselected urine samples are 1.9 and 0.23% with selective and nonselective media, respectively. Again, up to 60% of isolates from nonselective medium were clinically significant (5); the rate for those isolates from selective medium was very low (unpublished data). Selective medium for isolating *C. urealyticum* from urine samples has great epidemiological value, but it is not useful for management of the patients, as most strains isolated only from selective medium have no clinical relevance.

The decision to look for *C. urealyticum* in urine specimens and therefore to extend the incubation of urine cultures is a matter open for discussion. Nevertheless, we do not recommend the use of selective media for routine purposes. We recommend cystine lactose electrolyte-deficient and blood agars instead. Several circumstances, such as kind of hospital, local prevalence, data from urine sediment, and above all, clinical information communicated to the microbiologist, as also stated by Ryan and Murray (4), should be considered key factors before one decides to search for this pathogen.

REFERENCES

1. **Coyle, M. B., and B. A. Lipsky.** 1990. Coryneform bacteria in infectious diseases: clinical and laboratory aspects. Clin. Microbiol. Rev. **3:**227–246.
2. **De Briel, D., J. C. Langs, G. Rougeron, P. Chabot, and A. Le Faou.** 1991. Multiresistant corynebacteria in bacteriuria: a comparative study of the role of *Corynebacterium* group D2 and *Corynebacterium jeikeium*. J. Hosp. Infect. **17:**35–43.
3. **Pitcher, D., A. Soto, F. Soriano, and P. Valero Guillen.** 1992. Classification of coryneform bacteria associated with human urinary tract infection (group D2) as *Corynebacterium urealyticum* sp. nov. Int. J. Syst. Bacteriol. **42:**178–181.
4. **Ryan, M., and P. R. Murray.** 1994. Prevalence of *Corynebacterium urealyticum* in urine specimens collected at a university-affiliated medical center. J. Clin. Microbiol. **32:**1395–1396.

5. **Soriano, F., J. M. Aguado, C. Ponte, R. Fernández-Roblas, and J. L. Rodriguez-Tudela.** 1990. Urinary tract infection caused by *Corynebacterium* group D2: report of 82 cases and review. Rev. Infect. Dis. **12**:1019–1034.
6. **Soriano, F., C. Ponte, P. Ruíz, and J. Zapardiel.** 1993. Nonurinary tract infections caused by multiply antibiotic-resistant *Corynebacterium urealyticum.* Clin. Infect. Dis. **17**:890–891.
7. **Walkden, D., K. P. Klugman, S. Vally, and P. Naidoo.** 1993. Urinary tract infection with *Corynebacterium urealyticum* in South Africa. Eur. J. Clin. Microbiol. Infect. Dis. **12**:18–24.

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Proper Combination for *Alcaligenes xylosoxidans* subsp. *xylosoxidans*

M. Cheron et al. (1) have recently reported on an investigation of hospital-acquired infections due to "*Alcaligenes denitrificans* subsp. *xylosoxydans*." This combination was proposed in the 1984 edition of *Bergey's Manual of Systematic Bacteriology* (3) for the organism formerly known as *Achromobacter xylosoxidans*. However, in 1986, M. Kiredjian et et. (4) considered the name *Alcaligenes denitrificans* subsp. *xylosoxydans* to be illegitimate because the epithet *xylosoxidans* had priority. To correct this, Kiredjian et al. (4) formally proposed *Alcaligenes xylosoxidans* subsp. *xylosoxidans* Yabuuchi and Yano 1981 comb. nov. It is my understanding that this last combination is the currently accepted nomenclature for this organism and therefore is the correct nomenclature to be used in published reports. The last combination is also used in the 9th edition of *Bergey's Manual of Determinative Bacteriology* (2).

REFERENCES

1. **Cheron, M., E. Abachin, E. Guerot, M. El-Bez, and M. Simonet.** 1994. Investigation of hospital-acquired infections due to *Alcaligenes denitrificans* subsp. *xylosoxydans* by DNA restriction fragment length polymorphism. J. Clin. Microbiol. **32**:1023–1026.
2. **Holt, J. G., N. R. Krieg, P. H. A. Sneath, J. T. Staley, and S. T. Williams.** 1994. Bergey's manual of determinative bacteriology, 9th ed. The Williams & Wilkins Co., Baltimore.
3. **Kersters, K., and J. De Ley.** 1984. Genus *Alcaligenes* Castellani and Chalmers 1919, 936^{AL}, p. 361–373. *In* N. R. Krieg and J. G. Holt (ed.), Bergey's manual of systematic bacteriology, vol. 1. The Williams & Wilkins Co., Baltimore.
4. **Kiredjian, M., B. Holmes, K. Kersters, I. Guilvout, and J. De Ley.** 1986. *Alcaligenes piechaudii*, a new species from human clinical specimens and the environment. Int. J. Syst. Bacteriol. **36**:282–287.

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Although *A. xylosoxidans* subsp. *xylosoxidans* is used in the ninth edition of *Bergey's Manual of Determinative Bacteriology*, to the best of my knowledge, the combination proposed by Kiredjian et al. (1) has never been cited in the approved lists of bacterial names regularly edited by the *International Journal of Systematic Bacteriology*, and therefore it has not been validly published. Consequently, the combination *A. denitrificans* subsp. *xylosoxydans* seems to be still in force.

REFERENCE

1. **Kiredjian, M., B. Holmes, K. Kersters, I. Guilvout, and J. De Ley.** 1986. *Alcaligenes piechaudii*, a new species from human clinical specimens and the environment. Int. J. Syst. Bacteriol. **36**:282–287.

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Aeromonas caviae Exhibits Aggregative Adherence to HEp-2 Cells

We read with interest the recent article of Neves et al. (5), who reported the results of a HEp-2 cell adhesion assay (4) with *Aeromonas* species. We have also conducted this assay using a large number of clinical isolates of *A. caviae.* These 24 isolates, recovered from the Sheffield Children's and Royal Hallamshire Hospitals, Sheffield, United Kingdom, were submitted to extensive identification to the species level by conventional biotyping, esculin production, API20 NE strips, outer membrane profiling, and the suicide phenomenon (6) to ensure that all strains under investigation were *A. caviae.*

Neves et al. (5) reported that none of their three *A. caviae* strains investigated showed the classic "stacked brick" or aggregative adherence pattern described by Mathewson and Cravioto (3) for *Escherichia coli.* This was also true for 62.5% of our strains. However, it was observed that the remainder (37.5%) showed adherence patterns similar to those of strains described in the literature as aggregatively adherent. Moreover, our results correspond with those of Namdari and Bottone (4) in that we also observed a gradation in adherence among strains. This was a pattern that we too observed to change with the cell line and growth medium used prior to inoculation. This altered the adherence level from no or very few bacteria per tissue culture cell to an almost confluent mantle of 40 bacteria or more, depending upon the strain under investigation.

Of course we realize that only three strains were examined in the study of Neves et al. (5) and that few studies of this type have previously been performed. Also, it is only recently that identification of *A. caviae* to the species level has been achieved with any degree of confidence. Furthermore, although the methodology we used was the same as that of Neves et al. (5), it is quite likely that geographical variations exist for HEp-2 adherence of strains, as do differences between clinical and environmental strains.