

NOTES

Acetamide Broth for Isolation of *Pseudomonas aeruginosa* from Patients with Cystic Fibrosis

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The recovery of *Pseudomonas aeruginosa* was enhanced by incubating specimens in acetamide broth before subculture on cetrимide agar. This finding is of particular value in screening pediatric patients with cystic fibrosis for carriage of *P. aeruginosa*.

Smith and Dayton (4) found acetamide broth to be superior to cetrимide agar for the isolation of *Pseudomonas aeruginosa* from rectal swabs. Cetrимide agar is currently used to selectively isolate *P. aeruginosa* from patients with cystic fibrosis (CF) (2). We report here on the additional use of acetamide broth in the isolation of *P. aeruginosa* from CF patients.

The acetamide broth was prepared as follows: 5.0 g of NaCl, 0.2 g of MgSO₄, 1.0 g of NH₄H₂PO₄, 1.0 g of K₂HPO₄, and 20.0 g of CH₃CONH₂ were added to 1 liter of water. The broth was dispensed in 10- to 15-ml amounts for use and autoclaved at 121°C for 15 min. A total of 96 sputum samples, 124 throat swabs, 134 nose swabs, and 33 feces samples from 82 CF patients were inoculated onto cystine lactose electrolyte-deficient agar (Oxoid Ltd., Basingstoke, England) and cetrимide agar (Pseudoselect agar; BBL Microbiology Systems, Cockeysville, Md.) and into acetamide broth. All media were incubated aerobically at 37°C for 48 h. The acetamide broth was subcultured onto cystine lactose electrolyte-deficient agar and cetrимide agar after 24 h. *P. aeruginosa* isolates were identified by the method of Phillips (3).

We found acetamide broth subcultured on cetrимide agar to be superior to cetrимide agar

alone in the recovery of *P. aeruginosa* from CF patients (Table 1). Cetrимide agar selectively permits the growth of *P. aeruginosa* when large inocula are used (1), e.g., in the case of sputum or feces. Acetamide broth enriches the growth of *P. aeruginosa* even from small inocula, e.g., in the case of swabs. Because of the difficulty of obtaining sputum, throat swabs are frequently taken from children with CF. The early detection of *P. aeruginosa* is of prime importance in determining the prognosis of the CF patient. To facilitate early detection, we recommend the use of acetamide broth, particularly when swabs are used, in screening these patients.

ACKNOWLEDGMENT

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LITERATURE CITED

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TABLE 1. Comparison of cetrимide agar alone and acetamide broth plus cetrимide agar in the isolation of *P. aeruginosa* from CF specimens

Method ^a	No. of samples yielding <i>P. aeruginosa</i> ^b			
	Sputum	Throat swab	Nose swab	Feces
Direct inoculation	73	69	13	7
Subculture	75	76	28	9

^a Direct inoculation, direct inoculation onto cetrимide agar; subculture, subculture from acetamide broth to cetrимide agar.

^b The total number of samples was 96, 124, 134, and 33 for sputum, throat swab, nose swab, and feces specimens, respectively.