NOTES

A QUICK METHOD FOR THE DETECTION OF GELATIN LIQUEFYING BACTERIA

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Kohn (J. Clin. Pathol. **6**, 249, 1954) has developed a method which permits the detection of gelatin liquefaction within 24 hours by some strains of the "B *cloacae* aerogenes group", as compared to 7 days in a gelatin stab incubated at 22 C. This method employs formalin denatured gelatin which contains charcoal; when the gelatin is digested, particles of charcoal are liberated and settle to the bottom of the culture tube. When these "positive" tubes are shaken, the particles are resuspended as "a clearly visible black cloud" (Kohn). It occurred to us that the time required for the detection of liquefaction might be further reduced by the application of the rapid *micro*-technics of Weaver (Am. J. Med. Technol., **20**, 14, 1954) and his associates, and others, to Kohn's method.

TABLE 1

Time required for detectable liquefaction

Culture	Nutrient Gelatin Tube (Difco)	1 Per Cent Peptone with Kohn's Gelatin-Charcoal Disks	
		Macro-method	*Micro*-method
	days	*days*	*hours*
Bacillus alvei	6	3	4
Micrococcus citreus	7	1	2
Proteus vulgaris	2	1	2
Pseudomonas fluorescens	3	1	3
Streptococcus liquefaciens	2	1	4
Vibrio metschnikovii	8	3	6

Formalin denatured gelatin-charcoal was prepared according to Kohn's directions; disks, approximately 1 cm in diameter, were cut with a cork borer, washed in running water, sterilized by steaming for 30 minutes, and then stored in the ice box. Test tubes (75 by 10 mm), containing 1 ml portions of peptone water (1 per cent), were placed in a 37 C water bath; after 10 to 15 minutes they were heavily inoculated from young nutrient agar slant cultures. Peptone water was employed because Kohn found that nutrient broth has a "definitely inhibitory effect and the results are somewhat delayed". A disk of gelatin-charcoal was added to each tube. The tubes were incubated in the water bath and were examined at frequent intervals for evidence of liquefaction.

Fifteen cultures of gelatin liquefying bacteria were tested by this method, the *macro*-method of Kohn, and the conventional gelatin tube method. These cultures came from the departmental stock culture collection. Controls consisted of an equal number of nonliquefying cultures and several tubes of uninoculated media. None of the control tubes showed any evidence of liquefaction. Some typical results are given in table 1; similar results were obtained with 9 other gelatin liquefying types.