



Bulletin No. 12

June 22, 1979

Lederle Tine for Tuberculosis Screening

For the past 14 years, the State of Alaska Unit of Tuberculosis Control has utilized the Lederle Tine for tuberculin screening. However, an unacceptable rate of false negative readings has caused increased concern with this product. That others share this concern is shown in recent study by the Research Committee of the British Thoracic Society (1).

In this study 307 subjects were dual-tested and read by two observers, for a total of 1,228 readings. The Tine tests were interpreted according to manufacturer's recommendations (0-1 mm. negative; 2-4 mm. doubtful; 5 mm positive). Mantoux tests were grouped as 0-4 mm negative, and 5 mm positive. The distribution of the Mantoux test readings showed a small number in the range of 4-7 mm. More small diameter readings occurred on the Tine test than on the Mantoux. Although 59% of the Mantoux readings were positive, only 3.9% of the Tine readings were definitely positive, with 15.5% falling into the doubtful category, giving 19.4% with either positive or doubtful results. All together 40.1% of all readings were Tine negative and Mantoux positive. This false negative rate was equally divided between small and large positive Mantoux readings. No subject had a positive Tine and negative Mantoux, and there were seven doubtful Tines with negative Mantoux tests. The conclusion was the Tine test is unsuitable for epidemiologic use.

For TB Control's purposes the Mono-Vacc test appears to be more appropriate. This test has been evaluated in 1,423 individuals with simultaneous testing with Mantoux (2). The Mono-Vacc test was found to be acceptable for screening patients for tuberculin sensitivity. It was easily applied, highly acceptable to patients, and produced readily measurable induration. False negative reactions occurred in 1.2%, which is within the intratest variability of the Mantoux test, and thus unlikely to be statistically significant. The primary limiting factor was an 8.4% incidence of false positive reactions. However, the ease with which this test is applied would appear to more than compensate for the time spent in retesting with the Mantoux those who proved to be false positive.

TB Control also had the opportunity to field test this product recently in Toksook Bay. In this study the following results were obtained:

		MONO-VACC		
		Positive	Negative	Doubtful
M	Positive	25	3	0
A				
N				
T	Negative	20	217	1
O				
U				
X	Doubtful	0	0	1

False Negative: 1.4%

Thus it is felt that Mono-Vacc will better fulfill the requirements of the State of Alaska as a screening tool. Furthermore, Mono-Vacc is a visible liquid and simple to store, administer, and interpret.

A contract has been awarded to Lincoln Laboratories, manufacturers of Mono-Vacc, so the product will be distributed soon. Present supplies of Tine should be used first. Questions regarding this product should be directed to Elfrida Nord, Pulmonary Disease Nurse Consultant, Unit of Tuberculosis Control, 338 Denali Street (Room 301), Anchorage, Alaska 99501 (279-9417).

1. Lunn A., and Johnson A: Comparison of the Tine and Mantoux Tuberculin tests. Br. Med. J. 1:1451-1453, 1978.
2. Byrd R. et al: The Mono-Vacc Tuberculin Skin test. Dis. Chest. 56:447-449, 1969