

CORRESPONDENCE

GUINEA PIG INOCULATION VERSUS CULTURE IN THE DIAGNOSIS OF TUBERCULOSIS

The purpose of this letter is to inform the clinicians of the usefulness of guinea pig inoculation (GPI) in the diagnosis of tuberculosis. In the past, this technique was indeed the most sensitive method available. However, with the development of culture techniques and the availability of new media, culture methods have been found to be as sensitive, if not more than GPI.¹

Our laboratory is the only one in this country offering GPI for the diagnosis of tuberculosis, as it is a reference laboratory. We receive an average of 400 requests annually. However, with the recent cutbacks in public spending in the government hospitals we decided to have a look at our own figures in terms of sensitivity and cost of the methods of diagnosing tuberculosis. Between the years 1970 and 1982, we had examined 6,034 clinical specimens by both the culture technique using Lowenstein Jensen (LJ) medium and GPI. Table I shows the breakdown of the various types of specimens and the results. By looking at the figures, the GPI method did pick up more positives, but if we analyse these figures statistically, they are not significant. Moreover, one guinea pig costs about M\$5, excluding the cost of maintenance for eight

weeks, while two LJ tubes cost only ten cents. The diagnosis of tuberculosis in a guinea pig takes at least six to eight weeks while growth on culture media may be evident in four weeks.

Therefore, taking into consideration the cost, time and sensitivities of the two methods in our laboratory, we would discontinue the use of GPI as a routine diagnostic method. Instead, the sensitivity of our culture technique would be improved by using more LJ slopes per specimen. GPI would only be reserved for those specimens that are consistently contaminated on culture and those where the clinical suspicion of tuberculosis is high and culture results are negative. Under such circumstances, we would encourage the clinicians to contact us regarding the use of GPI.

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REFERENCE

- ¹Cummings M M. Diagnostic methods in tuberculosis II. Demonstration of *M.tuberculosis* by culture. *Am J Clin Path* 1951; 21: 684-690.

TABLE I
 COMPARISON OF CULTURE AND GUINEA-PIG RESULTS
 ON 6,034 SPECIMENS

Patterns of result	Number of specimens				
	Sputum	Endometrial currettings	Urine	Body fluids	Total of all specimens
Culture positive Guinea pig positive	53	18	17	19	107
Culture negative Guinea pig positive	6	9	3	3	21
Culture positive Guinea pig negative	6	3	2	2	13
Culture negative Guinea pig negative	642	3,014	831	1,406	5,893
Total	707	3,044	853	1,430	6,034