New syringe type of microtitre apparatus for virus and other serological tests

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Until now the standard micromethod for viral serological tests has been that of Takátsy (1955) or one of its modifications. The method employed in this laboratory is a miniature version of the standard macromethod (Bradstreet and Taylor, 1962), using 0-1 ml volumes. Their method has been compared with the version to be described. Diluent, complement, antigen, and red cell suspension were added by means of a Hamilton repeating dispenser in 20 microlitre volumes, the apparatus giving 50 such volumes per fill. A Marburg syringe with a disposable yellow tip was used to add sera and to make doubling dilutions. These items of apparatus are obtainable in Britain and are cheaper than the apparatus described by Takátsy (1955) or its modifications.

Disposable microtitre plastic plates with U-shaped wells were used. The yellow tip on the Marburg syringe was rinsed exactly as a standard automatic syringe is rinsed, but a 'blow-out' mechanism was incorporated in the Marburg syringe. These items of apparatus were tried out in the routine virus and other serological tests carried out in this laboratory. The antigens routinely used were influenza A, B, and C, parainfluenza 1, psittacosis LGV, respiratory syncytial, mumps S, mumps V, Herpes simplex and measles viruses, adenovirus, Rickettsia burneti, Mycoplasma pneumoniae, Leptospira icterohaemorrhagiae, canicola, and biflexa.

In 93 screening tests at 1/10 and 197 titrations (1/10 to 1/320) the results were shown to agree with those obtained using the macromethod. No differences of more than one dilution were observed in the titrations, and, where such differences occurred, they were reproducible and made no difference to the degree of rise in titre. There were no false positive or false negative results in the screen tests.

This microtechnique has now been adopted exclusively. It may not be quicker than the Takátsy method, but reagents are delivered as accurate volumes and not as drops, and the method is more convenient and more easily carried out by junior staff.

REFERENCES

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