



Articles in the June 2010 edition:

27th NRL Workshop on Serology

HIV Serological Diagnosis: An International Comparison



27th NRL WORKSHOP ON SEROLOGY

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HIV Serological Diagnosis: An International Comparison

Associate Professor Elizabeth Dax, who was Director of the NRL from 1990 until 2009, has a unique perspective on serological testing for HIV. She reports that it is twenty-five years since the first anti-HIV immunoassay was introduced into Australian blood services and public health laboratories! She recently attended the 2010 HIV Testing Meeting, held in Orlando, Florida, giving a talk on the work of the NRL, and presenting two posters.

Elizabeth Dax has produced the following article, giving a historical perspective relating to this meeting. Her attendance at the meeting was supported by the Australasian Society for HIV Medicine (ASHM).

Comparing the Australian and American Experiences.

The first assays used for HIV screening were HIV Subtype B viral lysate-based and, because of contaminating human protein from the cell cultures in which the virus was grown, had poor specificity.

Even second generation tests were giving relatively high repeat reactor rates. It was therefore necessary for the confirmatory tests to be highly specific.

In Australia, after a nation-wide study conducted by the NRL in collaboration with all Western blot users, stringent criteria were developed for interpreting Western blots and classifying the indeterminate patterns. Well over 1000 blot patterns were analysed (Healey et al, AIDS 6:629-633, 1992). The testing strategy that was then developed, based on the careful logic set by national and international groups, has been applied over the years in Australia with relatively few difficulties.

The situation in USA is different. The HIV/AIDS epidemic is different, with injecting drug users being a larger risk group. The health system is such that patients who have undergone screening testing for HIV often do not return to health care facilities for follow up. Furthermore, serological testing for HIV has not proceeded as smoothly in USA as in Australia. The FDA has been slow to license upgrades to HIV testing technology.



Because of the difficulty in maintaining contact with patients once they have undergone serological screening, the Centers for Disease Control and Prevention (CDC) has in recent years advocated the use of rapid tests in sequence, in order to generate serological diagnoses as quickly as possible.

The use of the Western blot has lost favour in USA, and the Red Cross Blood Service has more recently adopted the use of the immunofluorescence assay as their preferred confirmatory test. Unfortunately, there has been limited understanding in USA of the information that Western blots can impart, or of the subtleties of Western blot interpretations. Over the years, USA has concentrated on some of the problems associated with Western blots. However, FDA has over many years failed to license third and fourth generation tests for HIV. In consequence, specificity has not been improved, or the window period reduced, as much as should have occurred.

The 2010 HIV Testing Meeting in Orlando was designed by the American Public Health Laboratories (APHL) and by CDC to sort out HIV testing strategies for USA. In my opinion, the American approach to testing strategies is often muddled by a bid to hang clinical algorithms as an overlay to the testing algorithms. This can confuse the logic behind testing algorithms, which use validated, high-quality tests in combination.

The 2010 Orlando meeting considered a proposal to study a number of different proposed algorithms. These may be viewed on the APHL website: www.aphl.org. Evidence from numbers of laboratories was presented for review. A number of papers reviewed the increasing use of rapid tests, with a strong emphasis on using them to link serologically positive people with therapeutic programmes. However, rapid tests are used differently by different services. Record keeping and traceability related to the use of rapid tests appears to be suboptimal. One speaker said that their algorithms were "not standardised because we think diversity is preferable". Another speaker reported that the training time for the use of a rapid test was 4 hours.

Discussion at the meeting about the value of different testing algorithms did not adequately explore the logic behind these algorithms. According to my notes, predictive values were mentioned only once.

There were a number of interesting papers, and reports of innovations, and these and other presentations will be posted on the APHL website: www.aphl.org.

After many presentations and much discussion it was agreed that there was consensus for updating the testing guidelines. An algorithm consolidating available evidence was proposed. The outcome of this proposal will have to wait on a paper that will be produced by CDC and APHL.

It was a privilege to participate in this meeting; this update of the major differences between the development of HIV serology in USA and Australia was of great interest.

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27th NRL WORKSHOP ON SEROLOGY

3 - 6 August , 2010
The Langham Hotel
Melbourne

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Important dates:

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Oral presentations deadline 15 July 2010
(to Secretariat)

Registrations close 28 July 2010

Registration cancellation
deadline 25 July 2010

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