ITM and HIV - a near 40-year diagnostic relationship

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Dit is de omschrijving

When thinking diagnostics and ITM one area predominates - the extensive work done in diagnosing human immunodeficiency virus (HIV), since its discovery nearly 40 years ago. As a pivotal actor in HIV and AIDS research, including the Institute's exposure of the African dimension of the disease,diagnostics have played a major part.

Up to last year, ITM was the only World Health Organization (WHO) HIV reference laboratory in the world. One third of the circa 30,000 HIV patients diagnosed in Belgium received their diagnosis in Antwerp and the Institute has evaluated hundreds of HIV tests for WHO and industry since the 1980s.

One researcher behind these years of testing is Katrien Fransen, Head of ITM's HIV reference laboratory. Katrien started at ITM as a biology graduate in the 1980s. After a period writing reports on natural sciences for government agencies, she was very pleased to become a part of a team where she could see direct results.

"We were very lucky to have Peter Piot so engaged in policy around HIV and AIDS starting in the 80s, it meant we could see how our work was impacting people and the public health environment. Helping patients through a very diffi cult situation in life has always been very fulfi lling," says Katrien.

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Katrien Fransen

When she started, Katrien produced the antigens for the diagnostic test – known as the 'Western Blot' – herself; one of the earliest tests available for detecting antibodies of the virus. "In the past, as a biologist coming from studying trees," she recalls, "I just set to work on extracting the antigens in a security level 3 laboratory. Today it's not possible – you have to go through strict exams to be able to work with HIV in the labs, things have changed!"

And this change is not only in the ways of working, HIV diagnostics have also evolved and continue to evolve.

"Today everything is about speed – rapid testing," Katrien explains. "People can perform a first HIV test themselves at home after buying it from the pharmacy."

But no matter the type of test used for this first serologic test – whether from an enzyme linked immunosorbent assay (ELISA), the Western Blot or a rapid diagnostic test – specimens testing reactive need to undergo another series of confirmation tests before the patient receives a final diagnosis that leads to treatment.

Choosing test combinations depends on the purpose of the testing and the prevalence of the disease in a given geographical area. WHO outlines a series of generic testing strategies for HIV. They give possible combinations using ELISAs, rapid tests or a combination of these. Testing algorithms describe the combination and sequence of specific HIV assays used within a given HIV testing strategy.

P³ article

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Along with these combinations, the specific diagnostic tool technicians choose changes regularly, for researchers and companies are always looking to produce the next generation of tests. That's why Katrien and her team also provide quality testing of such new tools – reporting back to WHO and providing analysis for the European quality registration label CE (conformité Européenne).

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"Whatever certified assay is chosen, the important thing is that the results are as accurate as they can be in the given setting. Nobody wants misdiagnosis with such a disease – with all its social stigma and knock-on effects. Test results should only be shared with patients once we have undertaken the series of the serologic tests needed. Of course this is of utmost importance for us as a diagnostic team at ITM and it's something we look to make our partners in resource-poor settings particularly aware of."