

First steps towards new diagnostic tools for syphilis

During her PhD studies Kara K. Osbak researched new diagnostic techniques to replace century-old serological tests

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Dit is de omschrijving

Syphilis is a sexually transmitted disease caused by the *Treponema pallidum* bacteria. Each year, more than 6 million persons are infected with the disease. Men who have sex with men have been particularly affected, accounting for more than 90% of the Belgian cases. Half of these are reinfections. If syphilis is left untreated, it can be deadly or cause serious complications during pregnancy.

Diagnosis of a *T. pallidum* infection remains an onerous affair for clinicians, because the present techniques don't look for the presence of the syphilis bacteria in the patient's body but for the presence of antibodies against the bacteria in the blood. These indirect tests are based on a method that was introduced over one hundred years ago.

Kara researched the use of mass spectrometry on blood samples to directly detect the syphilis bacteria. She investigated whether the proteins in the blood could be used as biomarkers. Diagnostic tests could then focus on the presence of these biomarkers to determine whether the patient is infected with syphilis. The results turned out to be negative, so a second avenue of investigation was pursued. This time, mass spectrometry was performed on urine samples. During the initial tests, proteins were indeed detected.

Because this second method shows promise, a follow up study will further explore the possibilities, with the aim of developing new and faster tests. These new tests would not only lighten the workload of clinicians, they would also benefit syphilis prevention, because the results would be available quicker. It would mean that patients, and their partners, are informed of their status sooner.

Link

- The study: [Contemporary syphilis epidemics: efforts to improve syphilis diagnostics](#)