11th European Congress on Tropical Medicine and International Health (ECTMIH) , 16-20 September 2019, Liverpool UK

Jaco J. Verweij, Laboratory of Medical Microbiology and Immunology, ElisabethTweesteden Hospital, Tilburg

The bi-annuall ECTMIH meeting organized by the Federation of European Societies for Tropical Medicine and International Health (FESTMIH) and The Royal Society of Tropical Medicine and Hygiene (RSTMH). The 2019 meeting in Liverpool was attended by 1200 participants from almost 100 countries with researchers and policy makers presenting their work and reporting on progress of the battlbe against (neglected) tropical diseases. Traditionally there is a large focus on public health what can also interesting to learn from also as more a laboratory person. For example, you can develop new diagnostic tools, medication, or vaccins but it has now use if it does not reach or is not accepted by the target population.

In the session on quality assessment for molecular diagnostics presentations were given by Spencer Polley addressing verification quality assessment of commercial tests vs validation of laboratory tests presented by myself. Lisette van Lieshout and Jaya Shrisvastava highlighted on the progress of molecular diagnostic assessment schemes organized by the SKML and UK-Neqas respectively. Schemes are available now for malaria, intestinal protozoa and intestinal helminths/Schistosoma. Expressed was the need for standard materials as for now only available for *Plasmodium falciparum*.

Organised Session:
Splicing the schemes: Quality assessment for molecular diagnostics of parasites.
Organisers:
Peter Chiodini and Jaya Shrivastava, UK NEQAS Parasitology, Public Health England, London, UK
Chair:
Shrivastava J. (UK)
10:30 – 10:50
Experience with commercial molecular diagnostics for parasite detection in a routine diagnostic laboratory.
Polley S.D. (UK)
10:50 – 11:10
Laboratory developed molecular tests compliant with ISO15189 for diagnosis of intestinal parasitic infections.
Verweij J.J. (The Netherlands)
11:10 – 11:30
How accurate is the diagnostic performance of your stool PCR? Experiences from an international external quality assessment scheme for PCR-based detection of parasites in clinical stool samples.
Van Lieshout L. (The Netherlands)

11:30 – 11:50
Past, present and future: A review of the UK NEQAS EQA schemes for labs performing parasite diagnostics.
Shrivastava J. (UK)
11:50 – 12:00
Panel discussion

LABORATORY DEVELOPED MOLECULAR TESTS COMPLIANT WITH ISO15189 FOR DIAGNOSIS OF INTESTINAL PARASITIC INFECTIONS

Verweij J.J.[1]

[1] Laboratory for Medical Microbiology and Immunology, Elisabeth-Tweesteden Hospital, Tilburg, Netherlands

Introduction: In the last decades, molecular diagnosis of parasitic infections has evolved from confirmatory PCR in reference laboratories into first line diagnostics replacing microscopy. Clinical medical laboratories are inclined to comply with the requirements for quality and competence as set in the ISO15189 guidelines.

Aim: The validation and maintenance compliant with the ISO 15189 guidelines of in-house PCRs for the diagnosis of intestinal parasitic infections.

Methods: Relevant criteria were set for the validation of in-house PCRs including in silico sensitivity and specificity, multiplex efficiency, sensitivity and specificity, reproducibility and clinical applicability. These criteria were accessed on assays already in use as well as on modified and new assays for the detection of intestinal protozoa and helminths.

Results: The results of the validations provided new insights and were used to further improve, adjust and modify the existing assays to make them even more suitable for use in our setting.

Conclusion: Tailor-made interpretation and application of the ISO15189 guidelines provides a continuous improvement of the diagnostic performance of a clinical medical laboratory.

Reference(s):

1. Verweij J.J. Application of PCR-based methods for diagnosis of intestinal parasitic infections in the clinical laboratory. Parasitology 2014,141(14),1863-1872.

2 Verweij J.J., Stensvold C.R. Molecular testing for clinical diagnosis and epidemiological investigations of intestinal parasitic infections. Clinical Microbiology Reviews. 2014, 27(2),371-418.