

Joint Event on
7th Global Conference on
APPLIED MICROBIOLOGY AND BIOTECHNOLOGY
&
10th International Conference on
CLINICAL MICROBIOLOGY AND INFECTIOUS DISEASES
November 18-19, 2019 | Rome, Italy

A 3 year review of UK NEQAS Parasitology's EQA specimens containing multiple faecal parasites

Agatha Christie Santos Saez
Healthcare Scientist Specialist, UK

Aim: UK NEQAS Parasitology has been successfully running an External Quality Assessment (EQA) scheme for microscopy based detection of faecal parasites since the 1980s. It is a common observation that the rates of missed identifications increase if multiple parasites are introduced in a single specimen. We reviewed performance of participating labs in multiple parasite samples over the last three years to identify trends, if any.

Materials and Methods: 557 labs currently participate in our scheme. 14 multiple parasite samples containing a range of ova and cysts were distributed from June 2015 to February 2019. Performances of participants were analysed.

Results: On an average only 70.66% of the participants submitted the correct results (successfully identifying all the intended parasites). The performance ranged from a lowest of 16.2% to a highest of 97.1%. The commonly missed parasites were Ova of *Trichuris trichiura*, Hookworm sp., *Taenia* sp., *Fasciola* sp., cysts of *Entamoeba histolytica/dispar*, *Entamoeba coli*, *Endolimax nana* and *Giardia intestinalis*.

Following observations were made:

- The participants stop looking after one parasite was identified.
- If one of the parasites in the sample was present at significantly higher number, the search for any other parasites was not done (thereby missing parasites at lower parasitaemia).
- Incorrect used of concentration technique leads to poor recovery of the parasites.
- Some laboratories do not use iodine as a temporary stain to facilitate the recognition of cysts.
- Overuse of iodine results in masking the ova present in the samples.
- Failure to use an eyepiece graticule or inability to measure correctly leads to wrong speciation of parasites.
- Inexperienced personnel in the identification of parasites.
- Some participants do not examine sufficient amount of faecal material, low number of parasites maybe missed completely.
- Failure to identify and differentiate cysts and ova especially small cysts.
- Misidentification of artefact or faecal debris that resembles parasitic forms.
- No one method could be attributed to missed or wrong identifications.

Discussion: Faecal Microscopy requires skills and this can be achieved through proper training, experience and refresher courses. Non-reporting of parasites leads to poor performance and has accreditation implications. UK NEQAS Parasitology serves the pivotal role of identifying and flagging such issues.

As next steps, the following have been implemented:

- advice given to participants on how to improve their performance
- teaching sheets describing characteristics morphology of the parasite included in every report
- dedicated parasitology teaching programme offered to all participants to guide in the identification of parasite
- public engagement through attendance at key conferences and meetings and publishing in high impact journals.
- advocating correct use of concentration method for the identification of parasites

Keywords: race-based trauma; racism; systematic review; qualitative research

Biography

Agatha Saez has over 20 years of experience as parasitologist. She has BSc in Medical Technology in the Philippines and MSc in Clinical Microbiology in United Kingdom. She was a State –registered Biomedical Scientist with the UK Health and Care Professional Council. She is Healthcare Scientist Specialist in UK NEQAS Parasitology responsible for the preparation, evaluation and internal quality control of specimens for the UK National External Quality Assessment Scheme (UK NEQAS) for Parasitology and acquiring samples from overseas.

agatha.saez@phe.gov.uk