Undergraduates publish parasite research

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The Bristol researchers found the different strains of Trichomonas vaginalis

were highly variable

A team of University of Bristol undergraduates have published a study on genetic diversity in the sexually transmitted parasite Trichomonas vaginalis that they carried out as part of project work for their degrees in the School of Biological Sciences.

The Bristol team worked with researchers from Public Health England to type the DNA of parasites isolated from patients reporting with trichomoniasis or trich through the summer of 2013, with the aim of finding out how much genetic variation there was among different parasite strains.

It turned out that the Bristol parasites were highly variable – with 19 different genotypes found among the 23 isolates analysed in total. Broadly the 19 Bristol genotypes could be divided into two subgroups, the same picture as found in other regions of the world. No-one yet understands the origin or significance of these two subgroups of trich parasites, although there are suggested links to virulence and resistance to metronidazole.

Trichomoniasis is the most common, non-viral sexually transmitted infection in the world. It is caused by parasitic, single-celled microbes that live in the genito-urinary tract. In women parasite infection usually causes symptoms such as itching, irritation and discharge that prompt a visit to the GP or STI clinic. The infection is easily treated with a course of the oral antibiotic metronidazole, though parasites that are resistant to this drug are often reported.

By contrast, men seldom notice any symptoms of infection and therefore don't seek treatment, allowing the parasite to be spread to their sexual

partners. Although trich is regarded as a non-life-threatening infection, it's now implicated in a range of more serious health concerns such as preterm birth and low birth weight babies, chronic prostatitis and prostate cancer, as well as enhanced HIV transmission, so more research is needed into this all too common parasite.

The study was carried out by undergraduate students and researchers from Bristol's School of Biological Sciences and Public Health England and was published in the journal Infection, Genetics and Evolution.

More information: "Population structure and genetic diversity of the parasite Trichomonas vaginalis in Bristol, UK," *Infection, Genetics and Evolution*, Volume 34, August 2015, Pages 36-43, ISSN 1567-1348, dx.doi.org/10.1016/j.meegid.2015.06.006