significantly improved diagnosis of infection. However, these molecular tools still have some limitations especially in the case of low parasitaemia. Furthermore, research is still needed to make molecular detection a real control tool for the fight against sleeping sickness. The purpose of this study is to determine the threshold of sensitivity of real-time PCR using the 18S and TgsGp primers and of the LAMP technique, applied in the DiTECT-HAT project as molecular reference tests.

Methods We used serial dilutions containing 0, 1, 10, 100, 10³, 10⁴, 10⁵, 10⁶ parasites per ml of blood. Samples were extracted, and DNA was amplified.

Results The analytical sensitivity of the 18S real-time PCR with the Taqman probe of the filter paper samples is 100 parasites/ml and that of the TgsGp real-time PCR with the Taqman probe of filter paper samples is 10⁴ parasites/ml. For Lamp technique, the analytical sensitivity is 10³ parasites/ml.

Conclusion This study shows that a ‘negative PCR’ would not mean ‘no parasite’. It suggests that DNA detection techniques should still be improved.

**Abstracts**

**Characterisation of Pathogens Causing Diarrhoea in Children Under Five in Lambaréné, Gabon**

1,2Gédeon P Manouana*, 1,2Gedeon Bingoulou Matsougou, 1Natalie Byrne, 4Philipp Hofmann, 1Mireabeau Mbong Ngwese, 1Pau A Nguema Moure, 1Jeannot Frejus Zinsou, 1Jean Claude Dejon Agbogbe, 1Bayode R Adegbite, 1Jean R Edoa, 1Yobo J Honjepenjidi, 1Matthew B.B. Moradi, 2Abraham S Alabi, 2Daniel Ebadal, 2Peter G Kiemneider, 2Steffen Bormann, 1,2Ayola A Adegnika. 1Centre de Recherches Médicales de Lambaréné, Lambaréné, Gabon; 2Institut für Tropenmedizin, Universität Tübingen, Tübingen, Germany; 3Faculté de médecine, Université des Sciences de la Santé, Libreville, Gabon; 4German Center for Infection Research, Hamburg-Borstel-Lübeck, Germany

**Results**

Our study confirms major agents of acute diarrhoeal diseases in children, highlights research needs (Cryptosporidium) and supports the introduction of new tools such as the implementation of the rotavirus vaccine in the national immunisation programme.

**Conclusion**

This analysis of the causes of diarrhoea in children under 5 years of age in our setting showed three main pathogens: *Giardia lamblia*, *Cryptosporidium* spp. and rotavirus. Our study confirms major agents of acute diarrhoeal diseases in children, highlights research needs (*Cryptosporidium*) and supports the introduction of new tools such as the implementation of the rotavirus vaccine in the national immunisation programme.

**Collaborative Tuberculosis Research Agenda at KEMRI Center for Global Health Research, Kisumu, Kenya**

1Steve Wandiga, 5Janet Agaya, 2Duma S Gurion, 1Ocieng Albert Okumu, 2Grace Kirinya, 3Juliana Otieno, 4Geoffrey Mwai, 6Videlis Nubia, 7Stephen Munga. 5Kenya Medical Research Institute – Center for Global Health Research, Kisumu, Kenya; 6Kenya Medical Research Institute – Center for Respiratory Diseases Research, Nairobi, Kenya; 7Jaramogi Oginga Odinga Teaching and Referral Hospital, Kisumu, Kenya; 8Siaya County Referral Hospital, Siaya, Kenya

**Background**

Diarrhoeal disease remains the second leading cause of death in children under five years, being associated with about 525,000 deaths every year. The most common pathogens worldwide are *Shigella* spp/EIEC, rotavirus, adenovirus 40/41, ST-ETEC and *Cryptosporidium* spp. Public health interventions rely on estimates of pathogen-specific burden for prioritisation. Sadly, comprehensive data on the aetiology of diarrhoea in children is lacking for Gabon. This study aimed to identify the spectrum of pathogens found in Lambaréné, Gabon and provide baseline data on their prevalence, needed for implementation of effective control measures.

**Methods**

A cross-sectional study was conducted at Albert Schweitzer and Georges Rawiri Regional hospitals in Lambaréné from February 2017 to February 2018. A consecutive case of low parasitaemia. Furthermore, research is still needed to make molecular detection a real control tool for the fight against sleeping sickness. The purpose of this study is to determine the threshold of sensitivity of real-time PCR using the 18S and TgsGp primers and of the LAMP technique, applied in the DiTECT-HAT project as molecular reference tests.

Methods We used serial dilutions containing 0, 1, 10, 100, 10³, 10⁴, 10⁵, 10⁶ parasites per ml of blood. Samples were extracted, and DNA was amplified.

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Conclusion This study shows that a ‘negative PCR’ would not mean ‘no parasite’. It suggests that DNA detection techniques should still be improved.

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**Methods**

A cross-sectional study was conducted at Albert Schweitzer and Georges Rawiri Regional hospitals in Lambaréné from February 2017 to February 2018. A consecutive sample of children under 5 year old with diarrhoea or a history of diarrhoea within the previous three days were prospectively studied. A single stool sample was collected from each study participant and processed using commercial rapid immunoassays to detect antigens of rotavirus, adenovirus, and *Cryptosporidium* spp. Multiplex PCR was used for *Cryptosporidium* spp., *Giardia lamblia* and * Cyclospora cayetanensis* detection, and characterisation of *E. coli* strains.

**Results**

Out of 188 participants who provided stool samples, one or more pathogens could be detected in 34.6% of the cases. The most prevalent parasites were *Giardia lamblia* (14.9%), *Cryptosporidium* spp. (11.7%), and *Cyclospora cayetanensis* (2.7%). Enteric viruses also were identified in these children: 10.6% and 1.6% of rotavirus and adenovirus, respectively. Multiple pathogens were detected in 5.3% of samples.

**Conclusion**

This analysis of the causes of diarrhoea in children under 5 years of age in our setting showed three main pathogens: *Giardia lamblia*, *Cryptosporidium* spp. and rotavirus. Our study confirms major agents of acute diarrhoeal diseases in children, highlights research needs (*Cryptosporidium*) and supports the introduction of new tools such as the implementation of the rotavirus vaccine in the national immunisation programme.