Short communication

Suitability of selected culture media for *Blastocystis* spp.

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Abstract

*Blastocystis* is a common enteric protozoan of humans and various species of animals. Culture and microscopic examination of fecal samples is the conventional method for identifying four major forms of *Blastocystis* (vacuolar, granular, non-vacuolar or cystic). In this article, we compared eight liquid media for cultivation of *Blastocystis* spp. Study material included fecal samples from clinically healthy pigs. Significant differences in the growth of *Blastocystis* on individual media were observed.

Keywords: *Blastocystis* spp., in vitro culture, zoonosis, Jone’s medium

Introduction

*Blastocystis* is a common gastrointestinal protozoan belonging to the Phylum *Stramenopiles* (Tan 2008). It was first detected in a sample of human feces in 1912 (Yoshikawa et al. 1998) and is now found in mammals, birds, amphibians, reptiles and even arthropods (Stensvold et al. 2009). Low host species specificity of *Blastocystis* suggested a possibility of parasite transmission between different species (Rivera et al. 2008). Microscopic diagnostics of fecal smears, stained with trichrome, Giemsa, Gram or Wright stains (Stenzel et al. 1996) allows for observation of its various forms, such as vacuolar, granular, non-vacuolar or cystic (size varies from 2 to 200 μm). The culture methods are highly effective due to the rapid growth of the protozoa and are useful for obtaining samples with a higher concentration of the requested genetic material for molecular testing. The aim of the study was to verify the usefulness of selected media in the diagnostics of *Blastocystis*.

Materials and Methods

Study material included two collective fecal samples from six clinically healthy pigs grown at two different breeding stations. Microscopic examination of both collective fecal samples confirmed the presence of single cells of *Blastocystis*. *Blastocystis* spp. were multiplied in a liquid medium of a composition based on Jones’ medium (Jones 1946), buffered with 1 x concentrated Dulbecco’s Phosphate-Buffered Saline (DPBS), pH = 7.2, without Ca\(^{2+}\) or Mg\(^{2+}\) ions (IIITD PAN Wroclaw). Newborn Calf Serum heat inactivated (Gibco) or heat inactivated (30 min, 56°C) collective