Blastocystis invasion in patients with chronic viral hepatitis in Saint-Petersburg

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Objectives

Blastocystis is a prevalent enteric parasite that can be found in patients with or without gastrointestinal symptoms. Epidemiological studies have identified different subtypes but no one subtype has been strongly correlated with any disease. Earlier we have detect Blastocystis sp. more often in group of patients with chronic viral hepatitis (CVH) than in group without concomitant pathology of the hepatic-biliary system. The aim of the present study was to analyze Blastocystis among the isolates from patients with CVH in Saint-Petersburg and identify the typical subtypes for that group of patients.

Methods

323 stool samples were collected from patients with CVH and 1367 from healthy people. We identify Blastocystis at first by light microscopy and by PCR method with specific primers for 18S RNA gene. Samples were genotyped using seven subtype-specific sequence tagged site (STS) primer by PCR.

Results

Blastocystis were found in 32,3% of samples from CVH patiens (158 isolates). In control grup only 5,3% consist blastocystis. Analysis of the level of Blastocystis colonization showed that subtypes 5 (45% ) and 6 (36,1 %) were the most common in group with CVH. Subtype 3 was detected only in 24,7% of all isolates in that group and subtype 1 in 12%. Interestingly were that we have no found subtype 2,4 and 7 in CVH group. At the same time In control group we have no detect subtype 5 and 6, but we mainly detect subtypes 3 (65,4%).

Conclusion

The present study demonstrated that Blastocystis detected in 5 times more often in group of patients with chronic viral hepatitis than in control group. Subtyping of Blastocystis allowed to show that patients with CVH mainly colonized by zoonotic type (1,5 and 6) of Blastocystis infection. At the same time anthroponotic subtype 3 was demonstrated as the most common genotype in group without concomitant pathology of the hepatic-biliary system.