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**Predominance of *Blastocystis hominis* Subtype I among Colorectal Cancer Patients in Makkah, Saudi Arabia**Mona Abd El-Fattah Ahmed<sup>1,2</sup>, Amr M Mohamed<sup>3</sup>, Sabah A Ahmed<sup>1</sup>, Dina A Zagloul<sup>1,5</sup> and Sherifahmed Elsamany<sup>2,6</sup><sup>1</sup>Ain-Shams University, Egypt<sup>2</sup>King Abdullah Medical City, KSA<sup>3</sup>Umm Al-Qura University, KSA<sup>4</sup>Assiut University, Egypt<sup>5</sup>Al-Noor Specialist Hospital, KSA<sup>6</sup>Mansoura University, Egypt

The putative role of infectious agents in causing gastrointestinal disorders is undeniable. In this regard, *Blastocystis hominis* has increasingly been implicated for diarrheal illness in immunocompromised individuals including colorectal cancer (CRC). *Blastocystis* is a genetically diverse intestinal parasite with controversial pathogenic potential. At least 9 subtypes of *Blastocystis* have been found in humans. It has been shown recently that the antigen of certain *Blastocystis* subtypes could facilitate the proliferation of colon cancer cells. The aim of the current study was to assess the prevalence of *Blastocystis* in CRC patients and to genetically identify *Blastocystis* subtypes commonly associating CRC in Makkah region, Saudi Arabia. A total of 218 stool samples were collected from suspected patients including 74 CRC, 64 Cancer other than colon (COC) and 80 non-cancer (NC) patients. Collected stool samples were initially examined for detection of *Blastocystis* infection using culture technique. *Blastocystis*-positive isolates were further genetically subtyped using multiplex polymerase chain reaction with sequence-tagged site primers (PCR-STS). Out of the total examined stool specimens, *Blastocystis* were conventionally identified in 22.9% (50 out of 218). This included 29.7%, 25% and 15% among CRC, COC and NC patients, respectively. Using PCR-STS, obtained *Blastocystis* isolates were genetically categorized into 3 different subtypes; subtype I (22%), subtype II (44%) and subtype V (38%). While subtype II was predominantly detected in both COC and NC patients (43.7% and 58.3%, respectively), interestingly, subtype V was most predominant in CRC patients (54.5%). To the best of our knowledge, the study is the first to genetically determine the *Blastocystis hominis* subtypes associating CRC in Makkah region, Saudi Arabia.

**Biography**

Mona Abd El-Fattah Ahmed has completed her MD from Ain Shams University, Egypt. She is an Associate Consultant and Head of Clinical Parasitology Section and Laboratory Training and Education Coordinator at the Laboratory Department, King Abdullah Medical City, Makkah, KSA, since June 2010 to till date. She is also a Professor of Medical Parasitology, Faculty of Medicine, Ain Shams University since 2015. She has published more than 20 papers in reputed journals and serving as a Reviewer of reputed journals.

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