

Neurotrophin expression in chagasic megacolon

Nathália Segatto Ferreira¹; Michelle Aparecida Ribeiro de Freitas²; Pedro Fellipe Remolli¹; Enio Chaves de Oliveira³; Samir Jabari⁴; Axel Brehmer⁴; Alexandre Barcelos Morais da Silveira¹

¹Neurosciences Laboratory, ICBIM, Universidade Federal de Uberlândia, Uberlândia, Minas Gerais, Brazil

²Parasitology Sector, ICBIM, Universidade Federal de Uberlândia, Uberlândia, Minas Gerais, Brazil

³Department of Surgery, Medical School, Universidade Federal de Goiás, Goiás, Brazil

⁴Institute of Anatomy I, University of Erlangen-Nuremberg, Erlangen, Germany

Pacients with chagasic megacolon exhibit lesions of the enteric nervous system (ENS), associated with the inflammatory process and, some substances, like neurotrophins, may restrict neuronal destructions levels. The objective of this study was to characterize the neurotrophins expression in tissues from chagasic patients and verify its involvement in megacolon development. We used colon samples from chagasic patients with and without megacolon and non-infected individuals that, after preparation, were submitted to confocal fluorescence immunohistochemistry. To identify the sources and expression level of neurotrophins Nerve growth factor (NGF), Glial cell-derived neurotrophic factor (GDNF), and Neurotrophin-3 (NT-3), we performed a co-localization with a neuronal marker (Calretinin) and glial cell marker (S-100). Our results pointed that eeteroglial cells are the main sources of neurotrophins in all analyzed groups. Besides, chagasic patients without megacolon presented high expression of all investigated neurotrophins when compared with chagasic patients with megacolon and non-infected individuals. This data suggest that neurotrophins might perform a protective function in ENS due to inflammatory process and prevent the megacolon installation. By the other side, chagasic patients that do not express an adequate level of neurotrophins may evolve to megacolon form. We believe that drugs administration qualified to elevate neurotrophins levels in the intestine could prevent the megacolon installation and maintain the normal function of the gastrointestinal tract.

Keywords: Chagas' disease; chagasic megacolon; neurotrophins; enteric nervous system

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