Evaluation of Contamination level With *Clostridium Perfringens* Type B in Multiple Sclerosis Diseases(MS)

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Multiple sclerosis (MS) is a chronic disease of central nervous system which causesinflammation in the brain and the spinal cord, resulting in demyelination and damage to axonsand nerve fibers. The cause of this disease is still unknown, and many neuroscientists aresuspected that the disease is due to genetic, environmental and even infectious agents. The63 purpose of this study is to investigate the relationship between MS and *Clostridium perfringenstype* B infection.Materials and Methods: A total of 39 stool and blood samples were collected from MS patients and 40 stool and serum samples from non-MS patients. Stool specimens were evaluated for the presence of epsilon toxinby rapid test Strips for detection of *Clostridium Perfringens* Epsilon Toxin . Then stool sampleswere cultured. Positive colonies were evaluated by biochemical and PCR tests. Polymerase chain reaction (PCR) was performed for colonies for the presence of alpha, beta and Epislone toxins. From the total of 39 stool specimens MS patients, 5 *Clostridium perfringens*were isolated which 80% of the total were belonged to type A and 20% of them were type C. Ofthe total of 40 stool samples of non-MS patients, only 4 samples of *Clostridium perfringens* were isolated which all of them were belonged to type A. Results also showed that anti-epilecin toxinsshown in none of serum samples in the range of the disease.Conclusion:Of the 79 fecal specimens tested, patients with MS and non-affected *Clostridium perfringens* typeB were not isolated. of the 39 fecal specimens in patients with MS, 5 samples of *Clostridium perfringens* were isolated. Of the 40 stool samples of non MS patients, only 4 samples of *Clostridium perfringens* were isolated. All bacteria isolated after biochemical tests, were used for final confirmation of PCR. Which wasdetermined by PCR after toxinotyping, samples of MS patients were 80% ClostridiumPerfringens type A and 20% *Clostridium Perfringens* type C, whereas isolated bacteria from nonMS patients were 100% Clostridium Perfringens type A.In the serum samples, none of the anti-epislon toxin was detected.Therefore, based on the results of this study, there is no correlation between the infection ofpatients with *Clostridium perfringens* type B and MS disease.