Abstract

Infant botulism is the most common form of human botulism; however, its transmission has not been completely explained yet. Some of the most recognized potential sources of Clostridium botulinum spores are the soil, dust, honey and medicinal herbs. In Argentina, 456 cases of infant botulism were reported between 1982 and 2007. C. botulinum type A was identified in 455 of these cases whereas type B was identified in just one case. However, in Argentina, types A, B, E, F, G, and Af have been isolated from environmental sources. It is not clearly known if strains isolated from infant botulism cases have different characteristics from strains isolated from other sources. During this study, 46 C. botulinum strains isolated from infant botulism cases and from environmental sources were typified according to phenotypic characteristics. Biochemical tests, antimicrobial activity, and haemagglutinin-negative botulinum neurotoxin production showed uniformity among all these strains. Despite the variability observed in the botulinum neurotoxin's binding to cellular receptors, no correlation was found between these patterns and the source of the botulinum neurotoxin. However, an apparent geographical clustering was observed, since strains isolated from Argentina had similar characteristics to those isolated from Italy and Japan, but different to those isolated from the United States.

Keywords

Infant botulism, Phenotypic characterization, Clostridium botulinum.