

عنوان مقاله:

Molecular serotyping of Shiga toxin-producing Escherichia coli (STEC) from animal sources in Iran: Emergence of a potentially virulent O26: H29 strain

محل انتشار:

بیستمین کنگره بین المللی میکروب شناسی ایران (سال: 1398)

تعداد صفحات اصل مقاله: 1

نویسندگان:

Mahdi Askari Badouei - *Department of Pathobiology, Faculty of Veterinary Medicine, Ferdowsi University of Mashhad, Mashhad, Iran*

Haniye Taban - *Department of Microbiology, Faculty of Biology, Damghan Branch, Islamic Azad University, Iran*

Hatef Ajoudanifard - *Department of Microbiology, Faculty of Biology, Damghan Branch, Islamic Azad University, Iran*

خلاصه مقاله:

Introduction and Objectives: Shiga toxin-producing Escherichia coli (STEC) have been considered as one of the most important food-borne pathogens worldwide. Although a wide range of E. coli serogroups has been implicated in human infections, most severe cases have been related to certain serogroups. Lack of the availability of serotyping data in most developing countries has been a public health challenge to track outbreaks and to monitor the possible sources. We aimed to investigate the distribution of major STEC serotypes in a collection of STEC strains isolated from different provinces and variety of sources for the first time in Iran. **Materials and Methods:** Total of 75 non-duplicate STEC strains isolated in previous studies (2008 to 2016) was selected. The isolates were obtained from cattle (35), sheep and goats (22), pigeons (14), and other sources (4). All isolates were subjected to two multiplex-PCR assay detecting the major virulence genes (stx1, stx2, stx2f, eae, Ehly) and phylotypes. Then, they were tested for the 15 important O-groups including O26, O45, O103, O111, O113, O121, O145, O157, O5, O55, O75, O91, O104, O118, and O128 by PCR. Finally, 20 strains were selected for identification of H-genotypes by PCR and sequencing. **Results:** The predominant serogroup was O113 as it was detected in 9 isolates from different sources (5 cattle, 2 goats and 2 deer). O26 and O111 were found only in cattle isolates. O5 was only detected in ovine, but O128 was found in goats and pigeons. Some serogroups were not present in any sources (O157, O45, O121, O145, O55, O91, O104 and O118). The important recognized serotypes were O113: H21 (cattle, goats), O113: H4 (deer), O111: H8 (calves), O26: H11 (cattle), O128: H2 (goats, pigeons), and O5: H19 (sheep). Importantly, one strain from cattle that carried stx1, stx2 and eae belonged to O26: H29 serotype. **Conclusion:** This study provides the first serotyping (O: H typing) data documented in STEC strains of animal origin in Iran. Most strains with determined O-groups were from the bovine source that highlights the importance of cattle as reservoir of potentially pathogenic serovars. The recognized O26: H29 strain carried the essential facility for development of severe infections in human needs further investigations as a possible emerging strain.

کلمات کلیدی:

VTEC, animals, serotypes, Iran, virulence

لینک ثابت مقاله در پایگاه سیویلیکا:

