Escherichia coli Invasive Infections in Neonates

Background

- *Escherichia coli* causes neonatal bacteremia and meningitis.
- Bacterial passage across the newborn's intestinal epithelium is an important step that precedes bacteremia, with the bacterial virulence factors relevant in this process are poorly understood.
- This project aims to identify *E. coli* genes relevant in the initial invasion step of the bacterium into intestinal epithelial cells.

Highlights of Results

- It was demonstrated that neonatal clinical *E. coli* isolates show differences in their intestinal invasion ability, and that highly invasive isolates are genetically different from those with low invasion properties.
- Resistance to antibiotics currently used empirically to treat newborns is present in bacteremia-producing *E. coli*.
- Clonal spread among newborns of multidrug-resistant *E. coli* is possible; therefore, continued surveillance is needed.
- Identification of additional virulence factors associated with increased invasion in neonatal *E. coli* strains is important and further studies are warranted.


Amer J Perinatol
DOI: 10.1055/s-0034-1370341

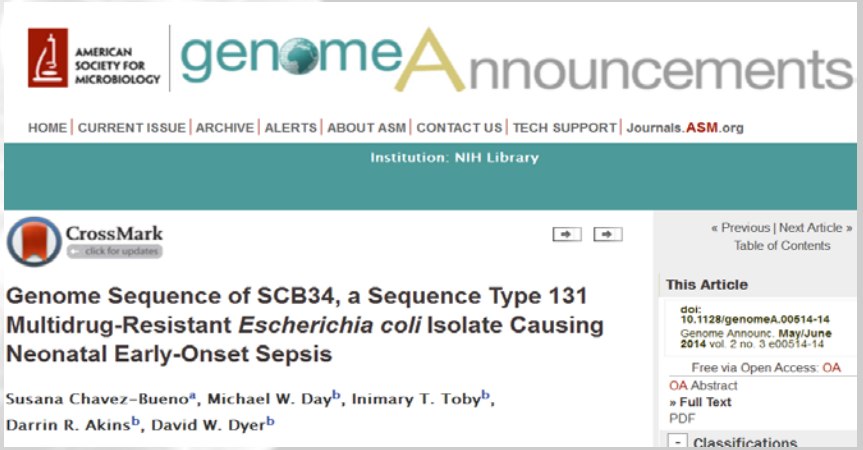
Original Article

Thieme Medical Publishers 333 Seventh Avenue, New York, NY 10001, USA.

Genotypic and Phenotypic Characterization of Invasive Neonatal *Escherichia coli* Clinical Isolates

Salika Mehreen Shakir[1], Jessica Marie Goldbeck[1], Denise Robison[2], Annette Marie Eckerd[1], Susana Chavez-Bueno[1]

[1]Department of Pediatrics, University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma
[2]Clinical Microbiology Laboratory, OU Medical Center, Oklahoma City, Oklahoma


AMERICAN SOCIETY FOR MICROBIOLOGY | genomeAnnouncements

HOME | CURRENT ISSUE | ARCHIVE | ALERTS | ABOUT ASM | CONTACT US | TECH SUPPORT | Journals.ASM.org

Institution: NIH Library

CrossMark

« Previous | Next Article »
Table of Contents

This Article

doi: 10.1128/genomeA.00514-14
Genome Announc. May/June 2014 vol. 2 no. 3 e00514-14

Free via Open Access: OA

OA Abstract
» Full Text
PDF

Classifications

Genome Sequence of SCB34, a Sequence Type 131 Multidrug-Resistant *Escherichia coli* Isolate Causing Neonatal Early-Onset Sepsis

Susana Chavez-Bueno[a], Michael W. Day[b], Inimary T. Toby[b], Darrin R. Akins[b], David W. Dyer[b]

P20GM103447 - AKINS, DARRIN R (OKLAHOMA)