

A Brief Discussion of *Escherichia coli* (*E. coli*)

David Denamur*

Department of Molecular Biology, Max-Planck Institut für Infektionsbiologie, Berlin, Germany

Description

Escherichia coli is a type of bacteria that usually resides in the intestines. It also exists in the intestines of some animals. Most types of *E. coli* are harmless and even help keep the digestive tract healthy. However, some strains can cause diarrhea if we take contaminated food or drink contaminated water. Although many of us associate *E. coli* with gastrointestinal diseases, you can also get pneumonia and respiratory infections due to various types of bacteria. *E. coli* causes 75% to 95% of urinary tract infections. *E. coli* can be a resident of the intestinal tract, thanks to the intestinal tract.

Some strains of *E. coli* cause nausea by producing a toxin called Shigella. This poison can damage the lining of the intestines. The toxin-producing *E. coli* strain is called STEC (Shiga toxin-producing *E. coli*). Unlike many other pathogenic bacteria, even if you only ingest a small amount of *E. coli*, it can cause infection. For this reason, *E. coli* can be caused by eating undercooked hamburgers or swallowing a mouthful of contaminated pool water. Possible sources of exposure are contaminated food or water and person-to-person contact.

Symptoms

The symptoms of diseases caused by STEC are abdominal cramps and diarrhea, which in some cases can lead to bloody diarrhea (hemorrhagic colitis). Fever and vomiting may also occur. This period can range from 3 to 8 days, with a median of 3 to 4 days. Most patients recover within ten days, but a small percentage of patients (especially young children and the elderly), the infection can lead to life-threatening diseases such as Hemolytic Uremic Syndrome (HUS). HUS characterized by acute renal failure, hemolytic anemia, and thrombocytopenia (low platelets).

10% of STEC-infected patients usually develop HUS, with a mortality rate between 3 and 5. Overall, HUS is the most common explanation for acute renal failure in young children. It causes neurological complications (seizures, strokes, and coma) in 25% of HUS patients and causes chronic, mainly mild kidney damage in approximately 50% of survivors.

Most of the information about STEC is related to the O157:H7 serotype because it is easily distinguished from other *E. coli* strains biochemically. The host of this pathogen appears to be mainly cattle. In addition, other ruminants such as sheep, goats, and deer are important hosts, while other mammals (such as pigs, horses, rabbits, dogs, and cats) and birds (such as chickens and turkeys) are also infected.

Consumption of contaminated food (such as raw or undercooked minced meat and milk) is the cause for transmission of *Escherichia coli* O157:H7. Fecal contamination of water and other foods, including cross-contamination during food preparation (beef and other meat products, contaminated surfaces, and kitchen utensils), can also cause infection. Examples of foods associated with the *E. coli* O157:H7 outbreak include uncooked hamburgers, dry-cured sausages, unpasteurized freshly squeezed cider, and cheese made up of milk. Many *E. coli* vaccines are under development, and effective vaccines could significantly contribute to the control of *E. coli* disease and antibiotic resistance worldwide.

How to cite this article: Denamur, David. "A Brief Discussion of *Escherichia coli* (*E. coli*)."
J Med Microb Diagn 10 (2021): 004.

* **Address for Correspondence:** David Denamur, Department of Molecular Biology, Max-Planck Institut für Infektionsbiologie, Berlin, Germany, E-mail : david.denam@uni-konstanz.de

Copyright: © 2021 Denamur D. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Received date: August 02, 2021; **Accepted date:** August 16, 2021; **Published date:** August 23, 2021