Phamaceutical practice and educational studies for campylobacter infection.

Novoka Rabella*

Department of Microbiology, University of Chicago, United states

Abstract

Campylobacter has become one of the most important foodborne pathogens in recent years, even in high-income countries. Especially in Europe, campylobacteriosis is his most commonly reported foodborne illness since 2005, and in the United States he is his second most reported, followed by infection by Salmonella spp. Campylobacter is a commensal microorganism in the gastrointestinal tract of many wild animals birds such as ducks and seagulls, domestic animals cows and pigs, and domestic animals e.g. dogs and cats, and is a cause of zoonotic diseases. Recently, many Campylobacter cases isolated from human infections have shown significant resistance to various antibiotics, such as tetracycline's and fluoroquinolones. For these reasons, prevention of this infection plays an important role. There are many preventive measures to limit pathogen transmission and consequent illness, including health surveillance throughout the production chain, poultry vaccination and good food hygiene.

Keywords: Campylobacter, Food poisoning bacteria, Epidemiology.

Introduction

The Campylobacter genus has long been recognized as the most common causative agent of human enteritis and gastroenteritis in both adult and pediatric patients. In recent years, cases of campylobacteriosis in high-income countries have exceeded those caused by classical enter bacteria. This organism is isolated from patients with gastrointestinal infections approximately 3–4 times more frequently than Salmonella or E. coli. Among low- and middle-income individuals, sparse data suggest that the prevalence of Campylobacter infection has increased in recent years [1].

Due to the sporadic nature of infection and the important role of cross-contamination, it is often difficult to trace the source of exposure to Campylobacter. For these reasons, many countries have taken a number of important preventive measures over the past decade to avoid these foodborne infections. Furthermore, recent scientific advances such as the complete sequencing of microbial genomes, new insights into the etiology of infection, and understanding of the role of immunity in protection against Campylobacter infection] have contributed to the understanding of appropriate etiological vaccines and helped guide the assessment and management of risks along the farm-to-fork chain [2].

Nevertheless, campylobacteriosis remains a difficult disease and infection to prevent .All species except C. gracilis synthesizes the enzyme oxidase. They do not ferment or oxidize carbohydrates, but instead derive energy from amino or tricarboxylic acids. Campylobacter species can grow at pH values between 6.5 and 7.5 and temperatures between 37° and 42°C. For this reason, some authors call it thermophilic. However, Levin suggests that these microbes are not truly thermophilic and cannot grow at temperatures above 55°C, hence they are more correctly termed 'thermos table.' In addition, since it lacks genes encoding heat shock proteins that play a role in adapting to low temperatures, it cannot grow at temperatures below 30°C [3].

Epidemiology

Campylobacter was again the most frequently reported gastrointestinal pathogen in the European Union (EU) in 2013. The number of confirmed cases reported was 214,779, with an EU reporting rate of 64.8/100,000, the same level as in 2012. Mortality was low. A total of 31.4% of the fresh chicken samples tested were positive for Campylobacter. The increase in Campylobacter-positive samples from 2012 to 2013 was largely due to the placement of data from Croatia, where he first reported results in 2013. Campylobacter was also uncommonly detected in turkey meat and other foods. In 2013, 414 Campylobacter outbreaks were also reported. The sources of these outbreaks, in order of importance, were poultry and other foods such as dairy products, milk and mixed foods [4,5].

Conclusion

Evaluating the epidemiology of Campylobacters has demonstrated that Campylobacter infections play an

***Correspondence to:** Novoka Rabella, Department of Microbiology, University of Chicago, United states. E-mail: novokarabella@mtsinai.on.ca

***Received:** 24-Oct-2022, Manuscript No. AAJIDMM-22-82045; **Editor assigned:** 26-Oct-2022, PreQC No. AAJIDMM-22-82045 (PQ); **Reviewed:** 09-Nov-2022, QC No AAJIDMM-22-82045; **Revised:** 14-Nov-2022, Manuscript No. AAJIDMM-22-82045; **Published:** 21-Nov-2022, DOI:10.35841/aajidmm-6.6.128*

***Citation:** Rabella N, Phamaceutical practice and educational studies for campylobacter infection. J Infect Dis Med Microbiol. 2022;6(6):128*

increasingly important role in public health. Global efforts to control the transmission of enteric pathogens have been effective in reducing the incidence of many important foodborne pathogens, but human Campylobacter infections have increased over the past decade, with most we believe that better and more efficient applied assays are needed to characterize the epidemiology of different Campylobacter spp. Deepen our understanding and enable vaccine development. We also believe that antimicrobial resistance is on the rise and that control strategies should be implemented for their use. In addition, it is now well established that poultry and other livestock such as cattle and pigs, and environmental sources such as contaminated water, also play an important role in the direct transmission of these organisms to humans. For this reason, it is very important to implement standardized biological control methods in the poultry sector, a major source of Campylobacter.

References

1. Skirrow MB. Campylobacter enteritis: a" new" disease. Br Med J. 1977;2;2(6078):9-11.
2. Figura N, Guglielmetti P. Clinical characteristics of Campylobacter jejuni and C coli enteritis. The Lancet. 1988 23;331(8591):942-3.
3. Caprioli A, Pezzella C. Enteropathogens associated with childhood diarrhea in Italy. The Pediatric infectious disease journal. 1996;1;15(10):876-83.
4. EFSA Panel on Additives and Products or Substances used in Animal Feed.Guidance on the assessment of bacterial susceptibility to antimicrobials of human and veterinary importance. EFSA Journal. 2012;10(6):2740.
5. Platts-Mills JA, Kosek M. Update on the burden of Campylobacter in developing countries. Current opinion in infectious diseases. 2014;27(5):444.

Citation: *Rabella N, Phamaceutical practice and educational studies for campylobacter infection. J Infect Dis Med Microbiol. 2022;6(6):128*