Review

Campylobacter spp. – a significant microbiological hazard in food. II. Lesions and infection development, pathogenic mechanisms and complications

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Abstract

Infections with Campylobacter spp. occur as a result of consumption of live cells with food. In developing countries those infections are immensely common, particularly during early childhood and 5 to 10 cases can appear during the initial two years of life. The symptoms appear usually after 1-7 days from infection depending on the number of ingested cells and individual sensitivity. Characteristic symptoms of infections caused by Campylobacter spp. infrequently occurring jointly in the clinical form of the disease include: diarrhea, abdominal pain and increased temperature. In the majority of cases the disease is mild and lasts from 2 to 7 days. Usually Campylobacter are excreted with feces during a period of 7-21 days, sometimes even longer. Occasionally in the increased risk group dangerous complications may occur. They include: bacteremia, meningo-myelitis, neurological disturbances and reactive arthritis.

Key words: campylobacteriosis, infection, pathogenicity, GBS, MFS, ReA

Introduction

Campylobacter spp. is currently the most frequently isolated human enteropathogene (ca. 400 million cases globally per year) and the number of infections has increased dramatically in many countries during the recent years (Jagusztyn-Krynicka and Brzuszkiewicz 2003). That microorganism is 3-4 times more frequently isolated from cases of alimentary infections than other enteropathogenes such as rods of Salmonella or E. coli. Campylobacter spp. is a component of natural intestinal microflora of various animals (Studahal and Andersson 2000, Wolf et al. 2001), and poultry and processed poultry products are considered the main source of infection with those pathogens (Notermans 1994). The level of infection with Campylobacter spp. among birds is very high reaching even 100% and healthy birds can excrete with feces around 10^4 – 10^7 cfu/g. (Wallace et al. 1998). Such a high percentage of carriers among birds should be explained by the fact that Campylobacter spp., as a thermotolerant microorganism finds particularly good conditions for living in the alimentary system of birds that have higher internal body temperature as compared to other animals (Shaw 2003). In addition to poultry also other spe-