Prevalence and antimicrobial resistance of *Arcobacter butzleri* and *Arcobacter cryaerophilus* isolates from retail meat in Lower Silesia region, Poland

I. Zacharow¹, J. Bystroń², E. Wałecka-Zacharska², M. Podkowik², J. Bania²

¹ Department of Epizootiology with Clinic for Birds and Exotic Animals, Faculty of Veterinary Medicine, Wrocław University of Environmental and Life Sciences, pl. Grunwaldzki 45, 50-366, Wrocław, Poland
² Department of Food Hygiene and Consumer Health Protection, Faculty of Veterinary Medicine, Wrocław University of Environmental and Life Sciences, Norwida 31, 50-375 Wrocław, Poland

Abstract

*Arcobacter butzleri* and *A. cryaerophilus* are considered potential foodborne pathogens. Consumption of *Arcobacter*-contaminated food is regarded the most likely source of human poisoning. We investigated the prevalence and antimicrobial resistance of *Arcobacter* isolates in 210 retail meat samples. Seventy-nine *A. butzleri* and 6 *A. cryaerophilus* were isolated from pork, beef and chicken meat. Incidence of *A. butzleri* was found to be the highest in chicken meat (83%). Less of *A. butzleri* was isolated from beef (16%) and pork (14%). Most of the *A. butzleri* isolates were resistant to β-lactams, like ampicillin (85%), amoxicillin with clavulonic acid (63%), cefotaxime (66%) and macrolides, i.e., erythromycin (62%). In contrast, all except one *A. cryaerophilus* isolates were susceptible to erythromycin. Tetracycline and aminoglycosides showed the highest efficacy against *A. butzleri* and *A. cryaerophilus* since almost 80% of their population was susceptible to these agents. All, except one *A. cryaerophilus* and the majority of *A. butzleri* isolates (70%) were susceptible to fluoroquinolones. The incidence of multiresistant isolates was found in forty two (53%) *A. butzleri*, and one (16%) *A. cryaerophilus* isolates. Eight *A. butzleri* isolates were resistant to all antimicrobials tested. These results indicate significant incidence of potential foodborne zoonotic agents, i.e. *A. butzleri* and *A. cryaerophilus* including multiresistant isolates in retail meat in Poland.

Key words: *Arcobacter* spp., antimicrobial resistance, pork, beef, chicken meat

Correspondence to: J. Bystroń, e-mail: jaroslaw.bystron@up.wroc.pl