Emerging Food Pathogens and Bacterial Toxins

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Abstract

Many different foodborne diseases have been described. For example, *Shigella* bacteria, hepatitis A virus and Norwalk virus were shown as a unwashed hands microorganisms, but pathogen *Campylobacter* and *Escherichia coli* were named as raw and undercooked meat and poultry or raw milk and untreated water born bacteria. However, two of them: *Listeria monocytogenes* and *Yersinia enterocolitica* are known as growing at refrigerator temperatures. Essential virulence determinants of *Listeria monocytogenes* pathogenicity are well known as a bacterial toxins. Basic molecular mechanisms of pathogenicity depending from these toxins were presented. It was shown that other bacterial toxins may act as very danger food poisoning substances. This is why elimination of pathogenic microorganisms from foods is an obvious solution in some food processes, however this approach is not practical or even desirable in many processes. Thus, risk assessment and microbial monitoring will continue to play important roles in ensuring food safety. Some technological advances have the capability of delivering detection systems that can not only monitor pathogenic microorganisms, but also entire microbial populations in the food matrix.

Key words: foodborne diseases, bacterial toxins, monitoring pathogenic microorganisms