Prevention and control of hazards in seafood

Seafood is high on the list of foods transmitting disease. However, the food safety issues are highly focussed and more than 80% of all seafood-borne outbreaks are related to biotoxins (ciguatoxin), scombrotxin or the consumption of raw molluscan shellfish. The safety hazards in seafood production are listed and discussed. It is pointed out that there are serious safety concerns related to the consumption of raw fish and shellfish due to the presence of biological (bacteria, virus, parasites) and chemical (biotoxins) hazards. These hazards are present in the fish and shellfish pre-harvest and are difficult or impossible to control by applying presently available preventive measures. In contrast, the hazards related to contamination, recontamination or survival of biological hazards during processing are well-defined and can be controlled by applying Good Manufacturing Practice (GMP), Good Hygiene Practice (GHP) and a well designed HACCP-programme. Similarly, the means to prevent the growth of pathogenic microorganisms during distribution and storage of the final products are - with a few exceptions - available. Proper application of well-known preservative parameters including temperature is able to control growth of most pathogens. When this is not the always case, for example inhibition of Listerin monocytogenes in lightly preserved fish products, it is recommended to limit the stated shelf-life of these products to a period of no-growth for the pathogen of concern. There is a good agreement between the trends shown in disease statistics, the hazard analysis and the qualitative risk assessment of the various fish products. It is recommended that consumers should be informed of the risk of eating raw seafood - particularly molluscan shellfish and certain freshwater fish. (C) 2000 Elsevier Science Ltd. All rights reserved.