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宁波地区食品中致病菌监测与流行株分析

Inspection of pathogenic bacteria in food and analysis of epidemic strains in Ningbo

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中文摘要:

　　了解宁波地区食品中致病菌检出情况和菌株的耐药性,发现其流行优势菌。方法 致病菌检测采用直接分离与增菌分离相结合的方法；细菌鉴定采用生化筛检和API等方法；细菌分型采用诊断血清和PFGE基因分型；药敏试验采用K-B法,耐药基因检测采用PCR法。结果 6 812份食品样品中检出目标菌7类12种,共2 331份,检出率为34.22%,致病性弧菌检出数最高,其次为沙门菌和致病性气单胞菌。副溶血性弧菌与其他致病菌差异有统计学意义($P<0.01$),分离出10个血清群和29个PFGE型,其中O6、O5血清群和PFGE 1型是副溶血性弧菌的主要优势流行型。检出的致病菌对大多数抗生素敏感,其中3株气单胞菌为带aacc耐药基因的多重耐药菌。结论 宁波地区食品中致病菌种类较多,易引起食源性疾病；各类致病菌均有流行优势株,副溶血性弧菌是最主要的流行优势株；血清分型和PFGE型能发现优势菌,但均有一定的局限性。

Abstract:

　　To study the contamination of pathogenic bacteria in food and their resistance to antibiotics, and to find the dominant epidemic strains in Ningbo.Methods Direct separation and culture enrichment were both used for pathogen isolation. The identification of bacteria was performed by Vitek 2 compact and API method. Sub-typing of bacterial was performed by serology and PFGE. Antibiotics resistances were tested by Kirby-Bauer method. Antibiotic resistance genes were detected by PCR. Results 7 categories and 12 kinds of bacteria (2 331 strains) were detected from 6 812 food samples. Most of them were pathogenic Vibrio, the second prevalent was Salmonella, and the third was Aeromonas. Vibrio parahaemolyticus was the major epidemic foodborne pathogenic strain in Ningbo. The detection rate had significant difference ($P<0.01$) compared to other pathogens. 10 serum groups and 29 PFGE types were identified, in which O6 and O5 serum groups and type 1 of PFGE were the dominant epidemic. Pathogenic bacteria detected were sensitive to most antibiotics. There were three Aeromonas strains which were resistant to multi-drug with aacc genes. Conclusion Foodborne pathogenic bacteria in Ningbo were various. All categories of pathogenic bacteria had their dominant epidemic strains, while Vibrio parahaemolyticus was the major contributor of foodborne diseases. Serotype and PFGE typing of bacteria could be applied to find their dominant epidemic strains, but either of them had certain limitations. The broad-spectrum antibiotic treatment was effective for foodborne bacterial illness.

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