

**ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY OF FOOD**

**UPDATE ON LISTERIOSIS IN THE UNITED KINGDOM, 2006.**

Iain Gillespie, Jim McLauchlin, Kathie Grant  
Health Protection Agency Centre for Infections

**Background**

1. *Listeria monocytogenes* and the disease listeriosis were first described in laboratory animals in 1924 and in humans thereafter. The disease, although rare, is severe, primarily affecting the unborn, the newly delivered, the immunocompromised and the elderly. The disease normally presents as abortion, septicaemia or central nervous system (the brain and the spinal cord; CNS) infections, with high mortality rates reported in all patient groups.
2. At its meeting in December 2005, members were informed of a change in the epidemiology of *L. monocytogenes* infection in England & Wales (Gillespie et al., 2006). This was characterised by increased incidence after 2000 (~180 cases annually vs. ~110 cases annually from 1990 to 2000), which occurred mainly in patients aged  $\geq 60$  years of age who presented with bacteraemia (the presence of bacteria in the blood) without CNS infection. This increase, which was not observed in Scotland or Northern Ireland, occurred in most regions in England and Wales, in both genders, and could not be explained by outbreaks recognised during this time.
3. An update was provided to members in June 2006. In England & Wales in 2005 incidence had decreased compared with 2004, and although this decrease was not statistically significant, the incidence was still statistically higher than pre-2001 levels. In Scotland in 2005, the incidence was significantly higher than in 2004 and from the period 1993 to 1999. Furthermore, the clinical presentation in Scotland in 2005 was similar to that observed in England and Wales, with the disease occurring predominantly in older patients with bacteraemia in the absence of CNS infection. No increase was observed in Northern Ireland. Additional data were presented which suggested that the altered epidemiological/clinical picture in England & Wales was not artefactual.

**2006 Update**

4. The seasonal pattern in *L. monocytogenes* infection in the United Kingdom is characterised generally by increased incidence in the latter half of the year. This, and the reporting delays associated with passive surveillance systems, means that it is difficult to draw meaningful

conclusions from data for the first six months of 2006, especially with regard to trends in incidence. However, the data suggests that illness in older patients with bacteraemia still predominates.

5. The Health Protection Agency (HPA) continues to administer clinical questionnaires to all cases reported in England and Wales. Standardised exposure data is also sought, but collection is hampered by disease severity and a lack of resources. All human (and food) isolates referred to the HPA Food Safety Microbiology Laboratory are characterised by molecular serotyping and amplified fragment length polymorphism analysis, with additional molecular characterisation done by pulsed-field gel electrophoresis on a subset of isolates.
6. In order to provide additional resources to investigate the changing epidemiology of *L. monocytogenes* infection in England & Wales the HPA responded to the Food Standards Agency's (FSA) research requirement B14R0001 ('Further our understanding of the epidemiology of foodborne listeriosis in the UK and the reason(s) for the recent rise in reported cases.'). Funding was sought for a multi-centred epidemiological and microbiological approach comprising a case-control study examining food consumption, handling and storage practices, the development of rapid typing methods and growth characteristic studies.
7. The FSA invited the HPA to resubmit a revised proposal for the above in March 2006 as the Agency felt that the original exceeded the scope of the requirement. The revised proposal was to "concentrate solely on... the identification of risk factors" and a revised proposal, reflecting these requests, was submitted in November 2006.

## **Conclusions**

8. Based on data for the first six months of 2006 there is a continued shift in the clinical presentation of *L. monocytogenes* infection in England, Wales & Scotland. Incidence in Northern Ireland remains too low for meaningful comparison. There remains a need for additional epidemiological and microbiological resources to investigate this change, which might be best undertaken in a co-ordinated UK wide approach.