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Abstract (poster session)

Epidemiological and microbiological features of listeriosis in Israel: towards a national control programme

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Objectives: (1) To study recent national epidemiological trends of listeriosis; (2) To analyse the molecular epidemiology of listeriosis; (3) To devise a national strategy for listeriosis control. Methods: Human listeriosis cases, 2007-2012, were identified through mandatory reporting to the MOH Epidemiology Division. Clinical and epidemiological data were extracted from hospital records and outbreak investigations carried out by District Health Offices. *L. monocytogenes* strains recovered from clinical and food samples and submitted to the Listeria Reference Laboratory were identified and serotyped using standard methods. Strain subtyping was performed at the National Centre for Molecular Epidemiology using pulsed-field gel electrophoresis (PFGE) using AscI (and ApaI as appropriate) according to PulseNet protocols and guidelines. EU data were derived from ECDC surveillance data. Results: In all, 319 listeriosis cases were registered (range 41-64/year), corresponding to an annual incidence of 5.3-8.9 cases/10⁶ population as compared to 3.5 cases/10⁶ population in the EU (in 2009). Females comprised 63.6% of cases. The annual age-specific incidence in the >65 years age band ranged between 25-39 cases/10⁶ population and the annual incidence among pregnant women ranged between 24 to 171 cases/10⁶ births. During the study period, 550 clinical and food strains were analysed, of which 377 (68.5%) mapped into clusters by PFGE. Of these 186 clinical and 191 food strains, 48%, 42% and 8% belonged to serotypes 4b, 1/2b and 1/2a, respectively. A total of 26 PFGE clusters were identified, comprising 3 to 55 strains per cluster (mean 12.6±14.4, median 9). Five clusters involved strains recovered in all study years and seven clusters involved strains recovered over five years. Notably, 16/26 clusters (all consisting of >10 strains) involved both clinical and food derived strains. Conclusions: (1) the incidence of listeriosis is higher in Israel than in most EU countries, particularly among pregnant women; (2) laboratory data suggest prolonged circulation of *L. monocytogenes* strains causing foodborne infection and possible point sources of listeriosis that warrant control; (3) Prevention of listeriosis in Israel necessitates a multi-faceted intervention, including heightened public awareness, optimisation of surveillance and epidemiological investigation protocols, integration of molecular methods in food microbiology and refinement of food inspection policies