D-26: Antibiotic susceptibility of food isolates of *Listeria monocytogenes*

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Listeria monocytogenes is a pathogen which causes bacteraemia and meningitis mainly in neonates and immunocompromised individuals. Early neonatal listeriosis is contacted in utero. Food, specially milk and milk products have been shown as a source of infection during pregnancy, which results in the transmission of listeriosis to the foetus. The organism was first isolated from food in Sri Lanka in 1994, and its occurrence in pasteurized milk and milk products suggests the possible presence of food borne listeriosis in Sri Lanka.

The objective of the study was to determine the *in vitro* antimicrobial activity of antibiotics most often prescribed for treatment, on the *L. monocytogenes* isolated from pasteurized milk, milk products and raw milk.

Eighteen isolates of *L. monocytogenes* obtained from 96 samples of pasteurized milk and milk products were subjected to the macro dilution broth susceptibility test recommended by the National Committee for Clinical Laboratory Standards (NCCLS, 1985).

Antibiotic powders with known antimicrobial activity were used in the test. Ampicillin trihydrate, Erythromycin stearate and Chloramphenicol were obtained from the State Pharmaceutical Corporation and Tetracyclines hydrochloride from National Quality Assurance Laboratories. *Staphylococcus aureus* (ATCC 29213) was used as the control strain.

Serial 2 fold dilutions of antibiotics were made in nutrient broth taking into consideration the antimicrobial activity in each. Each of the dilutions was inoculated with a calibrated suspension of isolate to be tested and incubated at 35°C for 18 h. At the end of the incubation period the tubes were visually examined for turbidity. The minimum inhibitory concentration (MIC) of each antibiotic (lowest concentration of antibiotic that prevents the *in vitro* growth of bacteria) were determined.

The comparative *in vitro* activity of antibiotics against 18 *L. monocytogenes* strains are as follows. The MIC ranges for ampicillin is 0.0625 - 0.125 μg/ml erythromycin 0.8 - 1.6 μg /ml, chloremphenicol 1.6 -3.125 μg/ml tetracyclines 0.1 - 0.4 μg/ml.

The MIC 90, which is the concentration of antibiotic at which 90% of isolates were inhibited are ampicillin 0.125 μg/ml, erythromycin 1.6 μg/ml chloremphenicol 3.125 μg/ml and tetracyclines 0.1 μg/ml.

All strains were within the susceptibility category based on NCCLS approximate MIC break points (expressed in μg/ml) for ampicillin ≤ 1.5, erythromycin ≤ 2.0, chloremphenicol ≤ 12.5 and tetracyclines ≤ 4.0.

This is the first report of antibiotic susceptibility of *L. monocytogenes* isolates in Sri Lanka. All isolates of *L. monocytogenes* from pasteurized milk, milk products and raw milk were found to be sensitive to ampicillin, erythromycin, tetracyclines and chloremphenicol.