Results: We found that most of units exceed American Dental Association recommendation (Anonymous 1996) for DU water quality (range 200–5000 CFU/ml). In 12 units studied, TCVs were higher in the high-speed handpiece(91.6%) than the air-water syringe(8.3%). Microorganisms isolated from DU: Pseudomonas fluorescens, Moraxella spp, Photobacterium damselae, Ochrobacterium anthropi, Pasturella haemolytica. Fungus were identified as Aspergillus flaveus, Penicillium expansum. All water samples were negative for Legionella sp.

Methods: Coastal seawater samples were collected monthly, between February and July 2004. Isolates were selected by membrane filtration technique and the filters were placed on Mac Conkey agar and Mac Conkey agar with ceftazidime (5 mg/l) or cefotaxime (2 mg/l). Colonies of lactose fermenters were randomly selected and screened for ESBL production by the double disc synergy test. Identification of the selected strains was achieved by classic biochemical tools and ID 32 GN. Susceptibility to antimicrobial agents was determined according to the NCCLS guidelines. Beta-lactamases were characterized by isoelectric focusing.

Results: ESBL producers were found in marine coastal waters of Oporto urban area over the mentioned period of time, in 2004. Actual work, shows a pattern of different types of ESBL and different associations of beta-lactamases, by opposition to the clonal characteristic of ESBL-producing E. coli isolates in 2000.

Conclusion: The presence of isolates showing different ESBL and different beta-lactamases association patterns, as expected, in the sea coastal water in different dates, seems to indicate distinct epidemiological relationships associated to a persistent, incoming of ESBL producers to the natural environment, providing a track for environmental dissemination of resistant bacteria and genes, that may create a source of transferable traits for emerging pathogens, via natural reservoirs of resistance, relevant in terms of public health and environmental protection.

P1916

Antibiotic resistance of bacterial strains isolated from water samples and fish


Objectives: The presence of resistant bacterial strains in surface fresh and marine waters, in drinking waters and edible cultured and free-catch fresh water and marine fish was investigated in order to assess potential risks for public health.

Methods: A total of 1580 samples (240 from drinking water, 50 from lake water, 400 from river water, 450 from marine water, 230 from free catch and 210 from cultured fish) were collected during a 4 year survey (2000–2003) from different point sources in the region of Northwestern Greece. All samples were processed following standard microbiological methods and susceptibility tests to antibiotics used in the routine medical practice were performed, using the disk diffusion and the MIC test (E-test).

Results: There were isolated 104 E. coli strains, 147 S. aureus, 106 E. faecalis, 55 E. faecium and 207 Pseudomonas spp. The strains from cultured fish exhibited remarkable multiresistance: 64.3% of E. coli strains from cultured fish were resistant to Ampiciline, 35.7% to Cefuroxime and 7.14% to Ceftazidime and Ciprofloxacine. On the contrary, only 5% of the strains from free-catch fish were resistant to Ceftazidime and 37.33% of the E. coli isolates from water samples were resistant to Ampiciline. None of the S. aureus strains isolated during this survey was resistant to Vancomycin and Teicoplanine. The most commonly isolated Enterococci species were E. faecalis (66.6%) and E. faecium (33.3%). However, there were no Vancomycin resistant Enterococcus spp., but there were isolated E. faecium strains resistant to Ampicillin (7%).

Conclusion: The presence of resistant bacterial strains in the aquatic environment and in the food chain originating from the aquatic environment is an important health issue and the potential impact on public health has to be addressed in relation to food safety concerns.

P1917

Pattern of extended-spectrum beta-lactamase producers in coastal seawater of Northern Portugal after a four-year period

J. Rocha, H. Ferreira (Porto, P)

Objectives: Access the presence of extended-spectrum beta-lactamase (ESBL) producers, in coastal seawater of Oporto urban area in 2004 and compare with those obtained in 2000.