



Veterinary Drug Use in Kosovo: Results from Two Year Surveillance of Antibacterial Residues in Milk

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Abstract: To assess public health hazards associated with the occurrence of antibacterial residues in commercial milk produced in Kosovo a survey of the contamination by antibacterial residues of raw milk was started in 2008. During the period June to November, 144 samples of raw milk were collected two times per month, from two milk collection points (MCP) from each Kosovo region, (Pristinë, Gjakovë, Pejë, Prizren, Mitrovicë and Gjiilan). Further 17 samples were collected from individual cows in individual farms. All the 161 milk samples were screened for beta-lactam, tetracycline and sulfonamide residues by DELVOTEST SP. Only 8 samples from MCP (5,8% of total samples) but all the 17 samples from individual farms (12,5 % of total) were positive at the screening test. Confirmatory analyses were carried out on the dried extracts of the 25 positive samples by the Dipartimento di Sanità pubblica, Patologia comparata e Igiene Veterinaria of the Padova University and at the Istituto Zooprofilattico Sperimentale delle Venezie Padova, in Italy. The presence of tetracyclines (oxytetracycline and tetracycline) was confirmed by LC-DAD in 5 samples (with two samples at concentration higher than the corresponding MRL), that of sulfonamides (sulfadiazine, sulfathiazole, sulfamethazine and sulfamethoxazole), by LC-MS in 8 samples, all at concentrations lower than the MRL of 100 µg/kg. Beta-lactam residues were detected by LC-MS in 4 samples (penicillin G, cefazoline and cloxacillin) always at concentrations lower than their respective MRLs). During the period April – November 2009, 1015 milk samples were collected: 826 were from MCP, 150 from individual cows and 39 samples of UHT milk were directly collected from retailers. The 52 samples positive at DELVOTEST SP, (10 samples from individual farms, 41 from MCP and 1 from retailers) were tested again using specific NEW SNAP TEST for penicillines, tetracyclines and sulfonamides; 40 samples out of 52 were positive at beta-lactams NEW SNAP TEST. Twenty five samples out of 40 were randomly selected to be confirmed by LC-MS and 16 samples revealed residues of amoxicillin, penicillin G and cloxacillin (12 of them at concentration > MRL). These preliminary results give an idea of the diffusion of antibacterial treatment in milking cows and support the need of a national surveillance plan for milk monitoring in Kosovo, to assess milk safety and guaranty consumer health.

Key Words: *milk, antibacterial residues, detection method, public health*

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