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RAPID AND ACTIVE SURVEILLANCE FOR THE CHARACTERIZATION OF MEASLES VIRUS (MV) STRAINS CIRCULATING IN MILAN, NORTHERN ITALY, MARCH-SEPTEMBER 2017

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Statement of the Problem: A large measles outbreak has been on-going in Milan and surrounding areas. Rapid and active surveillance was set up by the Subnational Reference Laboratories (SRL) Milan, established as part of the measles and rubella surveillance network MoRoNet in March 2017. The task of the SRL is the confirmation of measles cases (MV) and genotypic characterization of the circulating MV strains. This study reports the virological surveillance data of the MV outbreak from March to September 2017.

Methodology: Serum, urine and oropharyngeal swabs collected during the acute phase of the disease (4-10 days after the onset of rash) were analyzed for serological (MV IgM on serum) and molecular (RT-PCR on RNA from urine and oropharyngeal swabs) confirmation of MV cases. The genotype of MV strains was identified by sequencing the highly variable region of nucleoprotein (N) gene (N-450).

Findings: From March to September 2017, 386 suspected cases of measles were investigated and there were 327 (84.7%) laboratory-confirmed cases (median age: 30 years; range: 2 months–77 years). Overall, 60% of the confirmed cases were individuals aged 15–39 years and 6% were ≤ 1 year of age; 88% were not vaccinated. The genotype of MV strains was identified in 294/327 (89.9%) confirmed cases. The most common genotype was D8 (Osaka lineage; 85%, 250/294 cases), while genotype B3 (Dublin variant) was identified in 44/294 (15%) cases.

Conclusion & Significance: Eliminating measles and rubella is a core goal of WHO European Region Member States. Since the beginning of 2017 and up to 19 September, the Italian Ministry of Health has reported 4,532 cases of measles and three deaths. Timely measles surveillance is critical to disease control. Moreover, a high-quality and sensitive virological surveillance is a tool for monitoring the outbreak and achieving the elimination of the disease.

Biography

Elisabetta Tanzi is a professor of Hygiene at the University of Milan, Italy. She has a consolidated research activity focused mainly on the study of the biological, epidemiological and preventive aspects of infectious diseases relevant to Public Health. She is the coordinator of the Research Center "EpiSoMI, Molecular Epidemiology and Surveillance of Infections" of the University of Milan. She has published over 200 papers, more than 110 of which in national and international indexed journals, and is a member of editorial board in scientific journals.

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