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Measles outbreak in southern Italy: Campania Region, 2016

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Background: Measles is a vaccine-preventable disease related to about 25-30% complications. Despite WHO declared measles eradicable within 2015, between July 1st 2015 and June 30th 2016, 1818 cases of measles were reported in the European Region of World Health Organization. Italy accounted for about a third of all cases (n=572, 31%) with an incidence peak in the first 6 months of 2016.

Material/methods: The patients with suspected measles infection (both adults and children patients) admitted to the Cotugno Hospital and to the Unit of Pediatric Infectious Diseases of the University Federico II in Naples from January to September 2016, were investigated.

Results: In the first nine months of 2016, 584 cases of measles were notified in Italy of which 404 were confirmed by serology (69%). In Campania, where 10% of Italian population lives, 145 cases were notified accounting for 25% of all Italian cases (2,5 cases /100.000 inhabitants). Eighty-three patients (56 children and 27 adults, median age 14,65±13 years) were admitted by our institutions, with an epidemic peak of hospitalizations in February 2016. The vast majority of patients (93%) did not receive vaccination. At admission, all patients had fever, classic rash presentation with palm and sole rash, and 48% had Koplik spots. 83% developed at least one complication, including conjunctivitis (53%) , interstitial pneumonia (43%), trombocytopenia (28%), diarrhoea (20%), bacterial pneumonia (8%), hepatitis (7%), 1 case of encephalitis and 1 case of myocarditis. This clinical feature resulted in mean length of stay of 4,85 ± 2,67 days. Lab investigations showed LDH level was 535±219 U/ml, white blood cells 7,188 ± 3847, with lymphocyte 1597±2089. In adult patients (27 patients) mean lymphocyte count was 653±211. Two patients presented a reactivation of latent tuberculosis. National Reference Lab for Measles and Rubella performed molecular diagnosis confirming measles infection on 25/25 clinical samples, and measles sequences were obtained from 24 of these. Phylogenetic analysis showed that 23 strains belonged to the genotype B3 and one to the genotype D8.

Conclusions: A measles outbreak is currently on going in Southern Italy. Inadequate vaccination coverage could explain the virus circulation in Campania as well as in other European areas. Measles vaccination rates of 78% and 83% were reported in 2014 and 2015, respectively, in Campania region. These rates show a negative trend and are lower than those reported in Italy, 86% and 85%, in the same years. Clinical manifestation of measles outbreak in Campania were typical with increased LDH level and reduction of lymphocytes especially in adults. More than half of cases presented clinical complications. In order to interrupt the spread of the disease, physicians must promptly recognize and isolate measles cases as indicated by the WHO eradication plan and actively promote vaccination in susceptible population.