

Rapid communications

REPORT ON THE MEASLES SITUATION IN PORTUGAL

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A measles case, imported from the United Kingdom (UK), was reported in Portugal in late August 2008. Previously, measles cases imported from Romania, and import-related cases, were reported in 2005. There was no transmission to the autochthonous Portuguese population.

Background

Measles vaccination in Portugal started with a national campaign in 1973 and was included in the National Vaccination Program (PNV) in 1974. Since 1990, it consists of two doses of measles vaccine in the form of the combined measles, mumps and rubella vaccine (MMR), with the first dose at the age of 15 months and the second dose at the age of 11-13 years. The latter was changed to the age of 5-6 years in 2000 [1,2].

In 2001/2002, the seropositivity of the general Portuguese population against measles was of 95.2%, with a vaccination coverage of 95-98% and a seroconversion efficacy of 90-95% [1]. The high vaccination coverage has since been maintained and the last two confirmed cases of reported indigenous measles in the autochthonous Portuguese population occurred in 2002 and 2003, respectively.

In August 2008, and previously in 2005, imported and import-related measles cases affecting children of foreign origin, have been reported in Portugal. Viral transmission was contained in both instances and the virus was not transmitted within the autochthonous Portuguese population.

Case in 2008

In late August 2008, the Portuguese Directorate-General of Health was notified of a possible measles case in the Algarve Region, located in the south of the country. The notification was first made to the local health authority by a private paediatrician who had seen a six-year-old British child on 25 August, following onset of measles-like symptoms on 21 August and development of a rash on 23 October. Epidemiological investigations were immediately initiated and included laboratory detection and characterisation of the virus.

The child had travelled from the UK on 17 August, on vacation with both parents and two siblings aged 11 and 14 years. Both parents were vaccinated against measles. The three children were unvaccinated, and the patient's siblings received a post-exposure dose of MMR on 26 August.

The case was confirmed by detection of anti-measles IgM in the serum and by the presence of viral genome in a urine specimen. The virus was classified as genotype D4, and 449 out of 450 nucleotides encoding the C-terminal region of the nucleoprotein were identical to the genotype D4 strain MVs/Enfield.GRB/14.07 presently circulating in the UK [3].

This finding, and the fact that during the viral incubation period the child was still in England, identifies the case as imported from the UK.

Cases in 2005

In June 2005, an imported measles case had been reported, resulting in an outbreak affecting six children in two Romanian communities living in Portugal. Epidemiological investigations identified as the probable index case a child who had travelled from Romania to Portugal a week before rash onset. The other five children were epidemiologically linked to the index case and all presented clinical symptoms compatible with measles virus infection. Their measles immunisation status was unknown. All six cases were laboratory-confirmed by detection of anti-measles IgM in the sera and the presence of viral genome in oral and urine specimens. The virus was classified as genotype D4. A 200 nucleotide region encoding the C-terminal portion of the nucleoprotein was sequenced and showed 100% similarity to a genotype D4 viral strain concurrently circulating in Romania.

Discussion

The elimination of indigenous measles has been achieved in Portugal by steady high vaccination coverage (ca. 95%) and by strict implementation of disease control measures. The high anti-measles seropositivity of the general Portuguese population and the rapid investigation and control of the described imported and import-related cases, have permitted to contain viral transmission and contributed to the absence of reported cases within the autochthonous Portuguese population since 2003.

Measles did not become endemic again in Portugal in 2005, or in 2008, and the phylogenetic analysis of both imported viruses revealed different geographical origins.

The importation of measles cases remains a public health concern, because pockets of low vaccination coverage (85-94%) still persist in the population, thereby maintaining a possibility of acquiring the disease [1]. Globally, importation of measles cases and subsequent outbreaks as reported by several European countries in the last years, and with a very high incidence in 2008

[4-11], can compromise the goal of measles elimination in Europe by 2010 set by the World Health Organization Regional Office for Europe [12].

Acknowledgements

On behalf of the professionals who diagnosed, treated, notified, investigated and controlled the situations described: Private paediatrician in Albufeira; Paediatrics Departments of the Faro and Guimarães hospitals; Local Public Health Services of Albufeira, Guimarães and Vila Nova de Famalicão; Public Health Department of the Regional Health Administration of the Algarve; Public Health Department of the Regional Health Administration of the North; Disease Prevention and Control Division of the Directorate-General.

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This article was published on 16 October 2008.

Citation style for this article: Gíria M, Rebelo-de-Andrade H, Fernandes T, Pedro S, Freitas G. Report on the measles situation in Portugal. Euro Surveill. 2008;13(42):pii=19010. Available online: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19010>