

Over 60% of the cases were clustered in two out of 16 districts in Campania (112 and 265 cases). Most of the cases were reported in district A: about 60% of them were males. The median age was 16 years (range: 1-52). When cases in this district were compared to those in other districts, no significant difference was found in sex distribution (57.4% of males to 58.3%, $p = 0.7$). However, the median age of cases from district A was significantly lower than the median age of cases from other districts (16 to 23, $p < 0.001$).

Case distribution by date of onset in district A showed a similar pattern compared to cases in the other districts. Preliminary interviews with patients suggested that shellfish was a popular food item. Further results of the case control study, microbiological and environmental investigations are pending.

Discussion

Most of the cases occurred in one densely populated district on the coast, south of Naples. Patients from this area were younger than patients from the rest of the region suggesting a different pattern in susceptibility to HAV of the local population or a different mode of transmission.

The epidemic curve profile is compatible with two waves of transmission. After an initial point source of infection around New Year's Eve, the epidemic is thought to have amplified locally and was sustained through person to person transmission. As the average incubation period for HAV is 28-30 days, the period of exposure for most cases can be traced back to early January and mid February 2004. Seafood is suspected to have been the initial exposure source in both waves of HAV cases in the area but also contributed to the continuation of the outbreak. The seafood is believed to have been locally contaminated through incorrect handling or storage. These hypotheses are being tested on the field in a case-control study currently in progress.

Reference

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question, compared with five of 39 control persons, (mOR 8.7; 95% CI: 1.6-48). The last three primary patients did not remember that they had drunk milk from this dairy.

The outbreak was likely to have been caused by a foodstuff that was sold in a certain supermarket chain, which sells a large amount of milk products from the dairy mentioned. It is suspected that the milk from this dairy was contaminated with very low levels of VTEC O157. Following a press release by the Danish Veterinary and Food Administration (<http://www.uk.foedevaredirektoratet.dk/forside.htm>, [3] on 26 March, the production of milk from the dairy mentioned was temporarily stopped, the plant was cleaned and the pasteurisation temperature raised. Since then, there have been no further cases. The dairy has been investigated for VTEC O157 contamination, but these results have been negative. A further investigation of the herds supplying the dairy is planned [4].

Physicians in the Copenhagen area are still being officially advised to request a laboratory investigation for VTEC O157 when requesting cultures of stool samples for enteropathogenic bacteria from patients presenting with abdominal cramps and diarrhoea.

This outbreak caused by VTEC O157 is the first general one recorded in Denmark. Previous outbreaks of VTEC O157 linked to milk and dairy products have been reported in the United Kingdom [5,6].

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OUTBREAK OF VERO CYTOTOXIN-PRODUCING E.COLI O157 LINKED TO MILK IN DENMARK

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In an outbreak which lasted from September 2003 to March 2004 in Denmark, 25 people became ill with disease caused by Vero cytotoxin-producing *E.coli* (VTEC) O157 [1-2]. The outbreak was limited to the Greater Copenhagen area. A total of 18 children and seven adults were registered: six males and 19 females. The dominant symptoms experienced were abdominal cramps and diarrhoea: there were no cases with renal failure. The isolates cultured from stool samples had the same unique genetic fingerprint.

Eleven patients who became ill after 15 January 2004 and 55 controls were interviewed. Eight of the 11 patients were probably primary cases, while three might have been secondary cases. Of the eight primary patients, seven had bought goods from a certain supermarket chain (matched odds ratio (mOR) 7.7; 95% Confidence Interval (CI): 0.9-65). No other chain of shops was associated with increased risk of infection. On the basis of the interviews, milk from a certain dairy was the only foodstuff that was linked with an increased risk of infection. Five of the eight primary patients had drunk milk from the dairy in

SHORT REPORTS

MEASLES OUTBREAK IN NORWAY IN CHILDREN ADOPTED FROM CHINA

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Of a group of eight adoptees from China who came to Norway at the end of March 2004, four children developed a rash on the journey or shortly after arriving in Norway. In all four cases, measles was confirmed by laboratory results.

The Nasjonalt Folkehelseinstitutt (Norwegian Institute of Public Health, <http://www.fhi.no/>) was alerted to this outbreak in early April by the mother of one of the sick children. A few days later, we became aware of a similar outbreak of six confirmed and three possible cases among adoptees from China who were taken to the United States

(US) in March 2004 [1]. Due to the international character of the outbreak and because we assumed that some of the children had been infectious during their journey from China to Norway, an early warning was issued through European Union Public Health Information Network Health Surveillance System for Communicable Diseases (EUPHIN HSSCD) on 14 April. A response from Spain reported one possible case of measles in an adoptee from Hunan province in China.

Our epidemiological investigation, which included an internet search and contact with the parents of the adoptees, found that the Norwegian adoptees came from the same orphanage in Hunan province as the American adoptees with measles.

The children were all 11-12 months old at the time of the outbreak, with the exception of one who was 16 months old. The orphanage staff had informed the adopting parents that the children had not been vaccinated against measles. The parents were not officially informed, but some of them reported having heard rumours, of an outbreak in the orphanage (there are around 400 children in the orphanage, of all ages).

The Norwegian parents travelled to China as a single group. They collected their children from the orphanage on 22 March, and left Beijing by plane, arriving in Norway via Copenhagen on 31 March. Before the flight, one child was admitted to hospital in Beijing due to illness with a rash and her journey to Norway was delayed by a few days. The hospital diagnosed pneumonia, but measles was not confirmed.

Three children came down with fever and a rash shortly after their arrival in Norway and two of them were admitted to hospital. One case was laboratory confirmed as measles in the hospital, one was clinically diagnosed as a typical case of measles, and the third was initially regarded as not measles. Later, laboratory testing at the reference laboratory at the Folkehelseinstitutt (serum and saliva) confirmed measles in all four children who had developed a rash, including the child who had been admitted to hospital in Beijing.

The children who went to the US and developed measles had an onset of illness between March 22 and April 6. The Norwegian cases had onsets between 24 March and 2 April. The Spanish case became ill during the flight to Spain on 1 May.

The four uninfected children were not tested for susceptibility. Two of the four children who stayed well during the outbreak were given immunoglobulin on 6 April. At least one of the measles patients admitted to hospital in Norway was malnourished, but all the children with measles are reported to have recovered fully. There have been no reports of secondary cases in Norway during this outbreak.

The vaccination programme in Norway includes one dose of measles, mumps, and rubella vaccine (MMR) at the age of 15 months and one at the age of 13 years. The coverage of MMR in children aged two years has been slightly below the coverage of the other programme vaccines, and has been approximately 90% in recent years (it has been slightly below this since 2001).

Over the last four years, 0-8 cases of measles have been notified per year in Norway, all either imported or linked to importation, and seldom resulted in any secondary cases in the country. Many of the measles cases in recent years have been in refugee children who have fallen sick shortly after arrival in Norway.

At present we regard Norway as free from endemic measles, but with MMR coverage somewhat below the desired level, we must be prepared for outbreaks in connection with imported cases. This outbreak is a reminder that children adopted abroad may bring diseases into their new home country. Adoption agencies should work with the authorities in the country of origin to make sure that adoptees receive the necessary vaccines and that vaccinations are properly documented. In situations of outbreaks, such as measles, particular care should be taken in the country of origin that children are not brought to their new country before possible risk of communicable disease is clarified and controlled.

The World Health Organization (WHO) has ambitious objectives of reducing measles in the world, and of eventual eradication. The WHO European Region has specifically targeted elimination of measles by 2010 [2]. For Norway, the challenges are to maintain and improve

MMR coverage and to vigilantly maintain surveillance, adequate diagnosis and timely implementation of necessary actions when cases appear.

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DEATH OF A CHILD FROM RABIES IN LITHUANIA AND UPDATE ON THE LITHUANIAN RABIES SITUATION

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In March 2004, a five year old boy died from rabies in Lithuania. The boy originated from the district of Prienai (southern Lithuania) but had lived in the city of Alytus, also in the south of the country, since November 2003. On 21 February he fell ill with chills. The next day he had a fever (40°C). On 23 February the boy was admitted to Alytus city hospital, where he was diagnosed with an acute viral respiratory infection, acute nasopharyngitis and hyperthermia. On 24 February, he was admitted to the Respublikine Vilniaus universitetinė vaiku ligoninė (Vilnius University children's hospital) where he was diagnosed with acute viral respiratory infection, acute nasopharyngitis, acute encephalitis and neurotoxicosis. He became aggressive, anxious and was hypersalivating. All investigations (blood analysis, blood electrolytes and glucose, cerebrospinal fluid analysis, herpes virus test, blood culture, and a brain magnetic resonance scan) were negative or did not show any pathology. At a meeting of neurologists and infectious disease specialists, it was agreed that symptomatic treatment for the acute progressive encephalitis was having no effect, and so a diagnosis of rabies was not excluded. The boy died on 10 March. Final diagnosis was: rabies, not specified; complication: CNS activity deficiency. On 12 March, laboratory results were received: rabies had been detected by immunofluorescence. The case was reported beyond Lithuania [1].

Specialists from Vilnius and the regional public health centres undertook an epidemiological investigation to try to detect possible contacts of the patient with domestic and wild animals. The Alytus County department of the State Food and Veterinary Service (<http://www.vet.lt>) reported that between October and December 2003, there had been 11 animal rabies cases detected in the city of Alytus and surrounding county: one case in the city and 10 cases in the county (three foxes, five mongooses and three cows). In 2004 so far, there have been seven registered animal cases in Alytus county (two foxes, five mongooses, a dog and a cat).

Prienai district State Food and Veterinary Service reported that between October and December 2003, there were two detected animal rabies cases: in a dog and a mongoose and these cases were registered at 8-9 km distance from the place where the boy had been living. In 2004, no animal rabies cases have so far been detected in Prienai district. According to the patient's parents, in November 2003 in Prienai, a piglet died from unknown causes. It was not examined by a vet, and was buried.