

A cluster of measles

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Over a 4-week period from 10 April to 4 May 2000, 7 cases of serologically confirmed measles were notified to the Communicable Disease Control Branch (CDCB) (Figure 1).

The index case was a 25-year-old female employed as a patient service assistant in a large metropolitan private hospital. She developed a fever on 2 April and a rash on the following day. There was no history of recent travel, contact with a person with a rash, illness, previous measles or measles vaccination. On 13 April her 20-year-old brother (case 3) who resided in the same household presented with a measles-like illness. He had no history of measles or measles vaccination and had therefore received normal immunoglobulin (human) (Nlg(H)) and measles-mumps-rubella (MMR) vaccine on 10 April 2000. It could not be established if case 3 was due to a vaccine response or measles infection.

Case 2 was a 33-year-old female ambulance officer whose first symptoms occurred on 6 April and whose rash appeared on 9 April. A second ambulance officer, a 37-year-old male, became ill on 17 April with a rash on 21 April (case 4). Case 2 had no history of contact with a person with an illness with a rash and it could not be determined if she carried patients to or from the same private hospital as the index case. The two ambulance officers did not work together during the infectious period, although they may have been in the same location within 2 hours of each other. Neither case 2 nor case 4 had a history of previous measles infection nor documented evidence of measles vaccination.

On 28 April the 3-year-old daughter of case 4 presented with fever and cough. She developed a rash the following day

(case 6). She had documented evidence, including date and batch number, of a single dose of MMR vaccine given at 12 months of age. A 32-year-old female friend visited case 4 at home during his infectious period and developed symptoms on 28 April. A rash appeared on 3 May (case 7). This woman reported that she had not only had measles as a child but had also been vaccinated.

Case 5 was a 41-year-old female with a mild illness and an evanescent rash but positive measles serology. No epidemiological links could be established with the other cases; however, serological tests in a low prevalence community have a low positive predictive value and a thorough assessment of the clinical illness remains an important guide to the correct interpretation of positive IgM results. Serology for other rash illnesses was not diagnostic.

To prevent further transmission, general practitioners and pathology collection centres were asked to identify patients or staff who may have had contact with cases or who may have been in the waiting room up to 2 hours after a case had been present. MMR vaccine or Nlg(H) was offered to persons who had been exposed, and a letter describing signs and symptoms of measles was distributed. Local Immunisation Co-ordinators employed by the Divisions of General Practice provided information to GPs, assisted them with control activities and co-ordinated additional supplies of MMR vaccine. As at 25 May 2000 no further cases of serologically confirmed measles have been reported. Serum samples tested by the Victorian Infectious Diseases Reference Laboratory on 3 of the 7 cases were Reverse Transcriptase Polymerase chain reaction negative.

Figure 1. Notifications of measles cases, South Australia, 1 April to 26 May 2000, by day of onset,

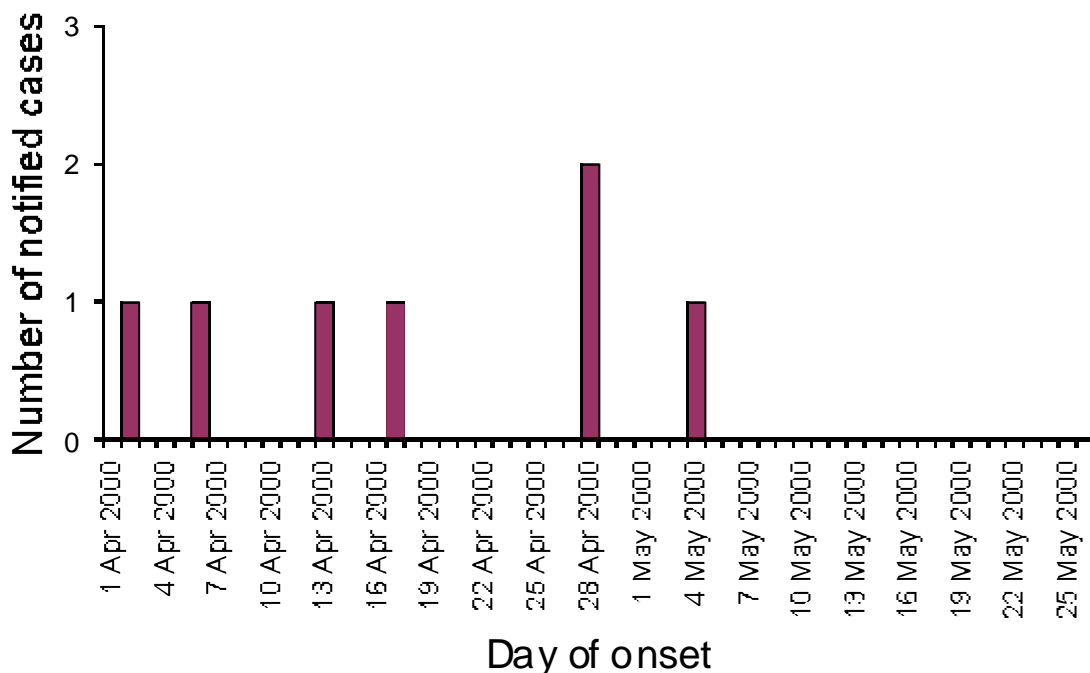


Table 1. Selected features of measles cases, South Australia, April to May 2000

Case	Rash onset	Date of IgM+	Age	Sex	Vaccine	Comment
1	3/4/00	7/4/00	25	F	unknown	Patient assistant in a private hospital, parvovirus IgG detected, rubella negative
2	9/4/00	17/4/00	33	F	? 1 dose	Ambulance officer, parvovirus negative, rubella IgG detected
3	18/4/00	2/5/00	20	M	10/4/00	Brother of case 1, NIg(H) on 10/4/00
4	21/4/00	1/5/00	37	M	unknown	Ambulance officer, parvovirus negative, rubella IgG detected
5	25/4/00	27/4/00	41	F	unknown	
6	29/4/00	1/5/00	3	F	1/5/98	Daughter of case 4, parvovirus negative, rubella IgG detected
7	3/5/00	3/5/00	32	F	1974	Friend of case 4

This cluster of measles cases is the first notified in South Australia (SA) since April 1999 and raises several important issues. The median age of patients in this cluster was 32 with the range of 3-41 years. Measles vaccination was introduced in SA in 1970 and it has been assumed that persons born before then will have immunity to measles from contact with wild disease. Additionally, a serosurvey conducted in 1997 showed that only 3% of persons born before 1975 were seronegative for measles IgG (CDCB, unpublished data). Control of transmission requires a rapid response and these cases were notified only after the

diagnosis had been confirmed, not on suspicion as is required by the SA *Public and Environmental Health Act*. There is an apparent lack of appreciation by health care establishments of the infectivity of measles and the need to exclude or isolate people where measles was a possible diagnosis. The episode also illustrates the need for health care workers to be immune to the vaccine-preventable diseases of childhood. Protocols requiring documented evidence of MMR vaccination of their staff members should be instituted.