



# CDR WEEKLY

*the Communicable Disease Report Weekly*

**Current Issue:** Volume 16 Number 21 **Published on:** 25 May 2006

## NEWS STORIES:

- ▾ Sorbitol-fermenting Vero cytotoxin-producing E. coli O157 (VTEC O157)
- ▾ Chikungunya: increase in imported cases
- ▾ Cluster of human cases with the H5N1 avian influenza virus reported from Indonesia

## INFECTION REPORTS

### IMMUNISATION

- ▾ Laboratory reports of invasive meningococcal infections, England and Wales: weeks 07/06 to 11/06 2006

### CDR S SUBSCRIPTION:

To subscribe to CDR Weekly, email us at: [cdr@hpa.org.uk](mailto:cdr@hpa.org.uk)

---

# News

Last updated: 25 May 2006 Volume 16, No.21 Next update: 2 June 2006

---

▣ Sorbitol-fermenting Vero cytotoxin-producing *E. coli* O157 (VTEC O157)

▣ Chikungunya: increase in imported cases

▣ Cluster of human cases with the H5N1 avian influenza virus reported from Indonesia

---

## ▣ Sorbitol-fermenting Vero cytotoxin-producing *E. coli* O157 (VTEC O157)

Atypical Verocytotoxin-producing *E. coli* (VTEC) O157 that ferment D-sorbitol have been reported in four patients in England. They were isolated by the Laboratory of Enteric Pathogens (LEP), HPA Centre for Infections, from stool samples received between 25 April and 4 May in relation to cases of haemolytic uraemic syndrome (HUS). One isolate was from a fatal infection in a young child from the Yorkshire and the Humber region and three (including one family contact) were detected as a result of investigation of HUS cases in another part of the region. Phage typing showed that the isolates reacted identically with the typing phages to give a pattern that did not conform to a designated type (RDNC). All isolates possessed genes for Vero cytotoxin (VT) 2, and pulsed field gel electrophoresis of DNA fragments gave indistinguishable profiles.

An outbreak occurring at a nursery in Central Scotland at a similar time to the infections in England was associated with a sorbitol-fermenting strain of VTEC *E. coli* O157. Teams from Health Protection Scotland and HPA Yorkshire and the Humber are working together to investigate whether any common factors exist that might link the cases identified to date.

Sorbitol-fermenting VTEC O157 were first recognised in 1988 in Germany during an outbreak of HUS [1] and have caused infections in continental Europe and Australia. Previous reports of infections with sorbitol-fermenting VTEC O157 comprised single cases in Scotland in 2002 and 2003 [2] and one case in England in 2004. It is possible, however, that there is under-ascertainment of this pathogen because of testing methods.

Standard protocols for the isolation of presumptive VTEC O157 from faeces target the more common sorbitol non-fermenting strains and use sorbitol-Macconkey (SMAC) agar containing cefixime and tellurite (CT-SMAC) as a selective medium. Sorbitol-fermenting VTEC O157 grow as pink colonies on SMAC agar and some may grow relatively poorly on CT-SMAC, although this property appears variable.

In response, the HPA Gastrointestinal Programme Board issued revised guidance to laboratories and specialists in England and Wales last week, via Regional Microbiologists and complementary networks, on the testing of clinical samples for sorbitol fermenting VTEC O157. If clinical symptoms are suggestive of VTEC infection (particularly in children aged under 15 years and adults aged over 65 years), and presumptive sorbitol non-fermenting *E. coli* O157 colonies are not observed on SMAC or CT-MAC agar, then sorbitol-fermenting colonies should be tested for agglutination with *E. coli* O157 antiserum. Colonies giving agglutination should be identified as *E. coli* and sent to the LEP for confirmation, phage typing, and detection of VT genes. Faecal samples from appropriate clinical cases from whom VTEC O157 has not been isolated may be submitted for detection of non-O157 VTEC. Three of the four cases from whom sorbitol-fermenting VTEC O157 was isolated also possessed serum antibodies to O157 lipo-polysaccharide. Laboratories should send serum (or alternatively saliva samples) if available to LEP for these tests to provide evidence of infection.

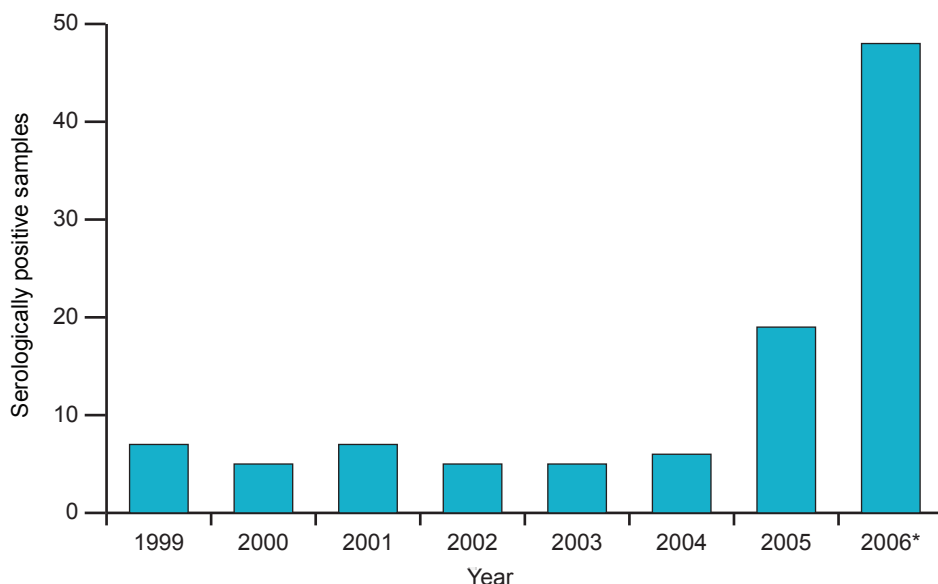
### References

1. Karch, H, Bohm H, Schmidt H, Gunzer F, Aleksic S, Heesemann J. Clonal structure and pathogenicity of Shiga-like toxin-producing, sorbitol-fermenting *Escherichia coli* O157:H-. *J Clin Microbiol* 1993; 31: 1200-5.
2. L Allison. HUS due to a sorbitol-fermenting VTEC O157 in Scotland- October 2003. *Eurosurveillance Wkly* [serial online] 2002 [accessed 24 May 2006]; 6(4): 021031. Available at <<http://www.eurosurveillance.org/ew/2002/021031.asp>>.

## Chikungunya: increase in imported cases

As of 15 May, there have been 48 cases of chikungunya in the United Kingdom in 2006 confirmed by the HPA Special Pathogens Reference Unit. Of those, nine have been additionally confirmed by developmental PCR and/or virus isolation, and the remainder were from suspect cases where there has been serological evidence (presence of IgG) of chikungunya infection. This compares to 19 suspect cases identified in 2005 and an average of six suspect cases identified each year between 1999 and 2004 (figure 1).

**Figure 1 Samples showing serological evidence of chikungunya, United Kingdom: 1999 to 2006\***



\* As of 15 May 2006.

The majority of cases since 1999, for whom travel history was available, reported recent travel to Africa or Asia. Eleven of the 19 positive samples identified in 2005 were members of the Royal Marines who had acquired chikungunya on exercise in Senegal. In 2006, the majority of samples were from cases who had reported recent travel to Mauritius (32 samples), with other cases from the Seychelles (five), Madagascar (four), Africa unspecified (three), and one to the Antipodes. Five other positive samples had no travel history.

The recent increase in the number of positive cases compared to those reported in the CDR Weekly, 21 April 2006 [1], represents an increased awareness of the infection by clinicians seeing returning travellers, and also by travellers themselves who have been to the islands of the Indian Ocean, where large outbreaks have been occurring in recent months [2]. Cases associated with travel to the Indian Ocean islands have also been reported in other European countries such as France, Germany, Belgium, Czech Republic, and Norway [3].

Although the outbreaks in the islands of the Indian Ocean appear to be on the decline [4], an outbreak has, however, been increasing in India particularly in the states of Karnataka, Maharashtra, and Andhra Pradesh [5]. The latest reported case numbers are available in table 1. Cases have also been identified in Madagascar and the Comoros Islands, although no data is currently available [4].

**Table 1 Latest reported case numbers of chikungunya in the Indian Ocean islands**

Country	Number of cases	Dates
Reunion [4]	258,000*	Mar 05 – 14 May 06
Mayotte [4]	6346	1 Jan 06 – 7 May 06
Mauritius [6]	8699	23 Dec 05 – 25 Apr 06
Seychelles [7]	5461	1 Jan 06 – 10 Mar 06
India [5]	100,000	1 Jan 06 – 30 Apr 06

†Cases estimated by mathematical modelling.

Although the outbreaks in the Indian Ocean are declining, the risk to non-immune travellers to chikungunya-endemic areas may exist for some time. Mauritius and the Seychelles are popular holiday destinations for British travellers, with around 7000 tourists per month [8] and so travellers must continue to protect themselves against mosquito bites particularly around dusk and dawn. Further information on bite avoidance can be found on the National Travel Health Network and Centre website at <<http://www.nathnac.org/pro/factsheets/iba.htm>>.

A new web page has been developed on the HPA website to increase public and health professional awareness of chikungunya and is available at <[http://www.hpa.org.uk/infections/topics\\_az/chikungunya](http://www.hpa.org.uk/infections/topics_az/chikungunya)>.

Health professionals who suspect chikungunya in a returning traveller should send appropriate serum samples (paired if possible and with a detailed travel history) to the HPA Special Pathogens Reference Unit for investigation. More information about this is available at <[http://www.hpa.org.uk/srmd/other\\_ref\\_labs/spru.htm](http://www.hpa.org.uk/srmd/other_ref_labs/spru.htm)>.

## References

1. HPA. Chikungunya virus in travellers to the Indian Ocean. *Commun Dis Rep CDR Wkly* 2006 [accessed 2 May 2006]; 16 (16): news. Available at <<http://www.hpa.org.uk/cdr/archives/2006/cdr1606.pdf>>.
2. HPA. Chikungunya virus in the Indian Ocean. *Commun Dis Rep CDR Wkly* 2006 [accessed 2 May 2006]; 16 (12): news. Available at <<http://www.hpa.org.uk/cdr/archives/2006/cdr1206.pdf>>.
3. Depoortere E, Coulombier D on behalf of the ECDC Chikungunya risk assessment group. Chikungunya risk assessment for Europe: recommendations for action. *Eurosurveillance Weekly* [serial online] 2006 [accessed 25 May 2006]; 5 (11). Available at <<http://www.eurosurveillance.org/ew/2006/060511.asp#2>>.
4. Institut de Vielle Sanitaire. Epidémie de Chikungunya à La Réunion / Océan Indien. Point de situation au mai 2006 [online] [cited 24 March 2006]. Available at <[http://www.invs.sante.fr/display/?doc=presse/2006/le\\_point\\_sur/chikungunya\\_180506/index.html](http://www.invs.sante.fr/display/?doc=presse/2006/le_point_sur/chikungunya_180506/index.html)>.
5. ProMED-mail. Chikungunya – Indian Ocean update (20): India, 1May 2006; 20060501.1261 [online]. Available at <<http://www.promedmail.org>>.
6. Le Mauricien. S. Faugoo : " Chikungunya : 8 699 cas avérés sur 10 915 cas notifiés [online] 25 April 2006 [cited 25 May 2006]. Available at <<http://www.lemauricien.com/mauricien/index.html>>.
7. International Federation of Red Cross and Red Crescent Societies. Seychelles: Chikungunya epidemic, Report No.MDRSC 001, [online] 10 March 2006 [cited 24 May 2006]. Available at <<http://www.ifrc.org/docs/appeals/06/MDRSC001.pdf>>.
8. HPA. Chikungunya virus in the Indian Ocean. *Commun Dis Rep CDR Wkly* 2006 [accessed 2 May 2006]; 16(6): news. Available at <<http://www.hpa.org.uk/cdr/archives/2006/cdr0606.pdf>>.

## Cluster of human cases with the H5N1 avian influenza virus reported from Indonesia

On 18 May 2006, the World Health Organization (WHO) reported that the Ministry of Health in Indonesia had confirmed seven new cases of human infection with the H5N1 avian influenza virus. Six of these were fatal ([http://www.who.int/csr/don/2006\\_05\\_18b/en/index.html](http://www.who.int/csr/don/2006_05_18b/en/index.html)).

The first fatal case occurred in a 38 year old woman in the city of Surabaya in East Java. She developed symptoms on 2 May and died on 12 May. This is the first case reported from East Java.

The other six cases (including one surviving patient) were all from the village of Kubu Sembelang in the Karo district of North Sumatra. All six were members of an extended family including three boys aged 10 (died on 13 May), 15 (died on 9 May) and 17 years (died on 12 May), a 25 year old man (surviving patient), a 28 year old woman (died on 10 May) and her 18 month old daughter (died on 14 May). On 23 May 2006, WHO reported an additional confirmed seventh case of human infection with the H5N1 avian influenza virus within the same extended family. This case is a 32 year old man who developed symptoms on 15 May and died on 22 May. This extended family is the largest H5N1 cluster, closely related in time and place, reported to date in any country.

To date, the investigation has found no evidence of spread within the general community and no evidence that efficient human-to-human transmission has occurred. Genetic analyses of two viruses isolated from cases in this cluster has found no evidence of genetic reassortment with human or pig influenza viruses and no evidence of significant mutations.

This brings the total in Indonesia to 42, of which 33 have been fatal. Two hundred and eighteen confirmed human cases had been reported from ten countries (Azerbaijan, Cambodia, China, Djibouti, Egypt, Indonesia, Iraq, Thailand, Turkey, and Vietnam), in the current outbreak of avian influenza since late 2003, as of 23 May. One hundred and twenty-four have been fatal.

---

## Immunisation Infection Reports

Last updated: 25 May 2006, Volume 16, No. 21 Next update: 22 June 2006

---

### Immunisation Routine Data Reports

📄 Laboratory reports of invasive meningococcal infections, England and Wales: weeks 07/06 to 11/06 2006

---

📄 Laboratory reports of invasive meningococcal infections, England and Wales: weeks 07/06 to 11/06

	Method of diagnosis			Total reports	Cumulative*
	CSF and blood Culture	Non-culture	Other sites	07/06-11/06	Total to week 11/2006
Group A	–	–	–	–	–
B	68	79	6	153	345
C	5	2	1	3	11
W135	4	–	–	4	6
X	–	–	–	–	–
Y	2	–	–	2	14
29E	–	–	–	–	–
Ungroupable	–	–	–	–	–
Ungrouped	–	5	–	5	10
<b>Total</b>	<b>79</b>	<b>86</b>	<b>7</b>	<b>167</b>	<b>386</b>

\*Latex antigen, microscopy, polymerase chain reaction combined Health Protection Agency Centre for Infections data and Meningococcal Reference Unit data.