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CDR WEEKLY



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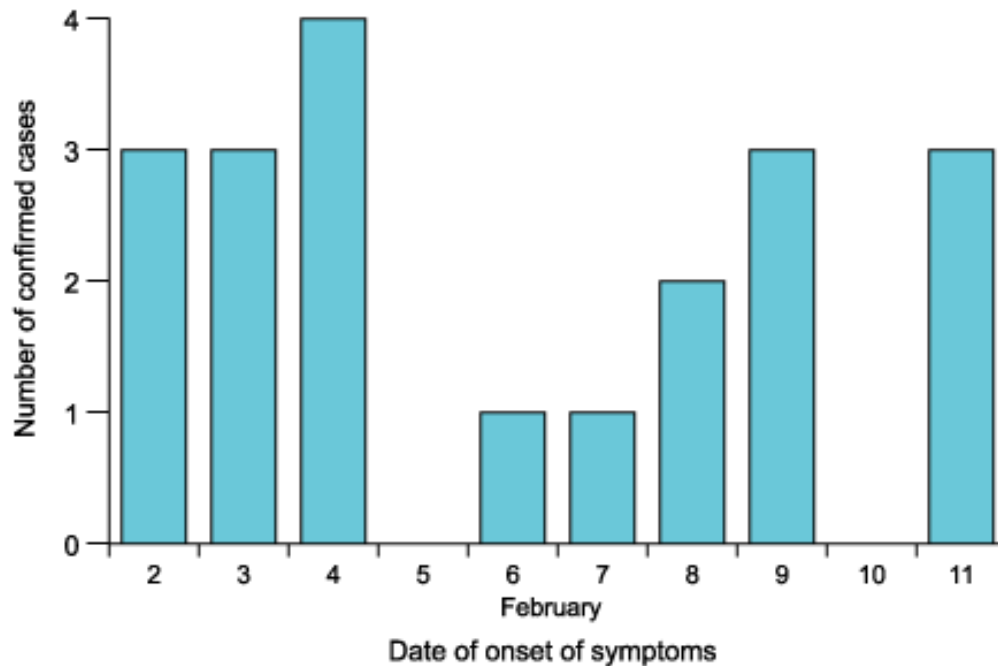
SEARCH

Outbreak of *Salmonella* Braenderup focused in West Midlands

Since 18 February 2003, the PHLS Laboratory of Enteric Pathogens (LEP) has confirmed 40 cases of *Salmonella* Braenderup, 26 of which are from the West Midlands including 15 from Worcestershire and eight from Birmingham. The remainder are throughout the country. Last year there were 146 confirmed cases of infection with *S. Braenderup* in England and Wales.

Onset dates for the West Midlands cases range from 2 to 11 February, and the epidemic curve shows a peak around 2 and 3 February (figure). The majority of cases had eaten food in one of four Birmingham food premises and three Worcester premises. Birmingham Public Health Laboratory has isolated *S. Braenderup* from two food samples from two of the suspect premises in Birmingham. Isolates of *S. Braenderup* from ten cases and the two food samples have been characterised by the LEP and are indistinguishable by plasmid profile and pulsed field gel electrophoresis analysis.

Figure Confirmed cases of *Salmonella* Braenderup in the West Midlands with definite dates of onset



Investigations, including a case control study, are being led by CDSC West Midlands. Medical microbiologists are asked to ensure that all *Salmonella* O6, 7 isolates are referred to LEP as soon as possible. Consultants in communicable disease control are asked to contact Shalini Pooransingh at CDSC (West Midlands), (tel: 0121 773 7077 email: SPooransingh@phls.org.uk) with details of any cases that might be linked to this outbreak.

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Report published on CJD incident in Middlesbrough

On Friday 28 February the Department of Health published a report into an incident that occurred in 2002 in which some patients were exposed to neurosurgical instruments used on a patient who was later found to be suffering from sporadic Creutzfeldt-Jakob disease (CJD) (1).

The incident occurred in August 2002 when a patient, who at the time was not suspected of having CJD, underwent a diagnostic brain biopsy in Middlesbrough General Hospital. The instruments used for the brain biopsy were subsequently used on a number of other patients before the diagnosis of CJD was made. Once the diagnosis was made the Trust immediately quarantined the instruments and contacted the CJD Incidents Panel for advice on how to manage the incident. In October, while the CJD Incidents Panel was still finalising its advice, confidential details of the incident were leaked and the incident was widely reported in the media. The Trust decided to notify a number of patients about their potential exposure before a full risk assessment had been completed because of intense media interest..

The Chief Medical Officer for England appointed Dr Bill Kirkup, North East Regional Director for Public Health, to conduct a review of the events leading up to the notification of patients in order to identify ways in which procedures and policy could be improved. The report sets out a chronology of the events and reviews the Trusts compliance with national guidance on the re-use of brain biopsy instruments and with guidance on instrument decontamination and tracking. The report also reviews the strength and clarity of national guidance on instrument decontamination and tracking, the procedures and processes of the CJD Incidents Panel and the handling of communications following the initial media interest.

The report concludes that the Trust complied with national guidance, but that guidance on instrument decontamination and tracking needs to be strengthened and clarified. The report also recommends that

all surgical instruments used in brain biopsy operations where there is no focal lesion should be quarantined until a definitive diagnosis has been established. Dr Kirkup also recommends that the process of seeking and receiving expert advice from the CJD Incidents Panel should be improved, as should systems of communication between the Department of Health and local groups.

Person-to-person transmission of sporadic CJD via contaminated surgical instruments has occurred rarely in the past and is a theoretical risk for variant CJD, although it has never been documented. In 2000 the Chief Medical Officer established an expert advisory group, the CJD Incidents Panel, to advise on the most appropriate action to take to handle incidents involving potential transmission of CJD from person to person through clinical interventions. Further information on the Panel is available at <http://www.doh.gov.uk/cjd/incidentspanel.htm>.

The Chief Medical Officer for England, Sir Liam Donaldson, has issued a press release stating that the Department of Health will be implementing Dr Kirkup's recommendations (2).

1. Kirkup B. Incident arising in October 2002 from a patient with Creutzfeldt-Jakob disease in Middlesbrough. Report of incident review. London: Department of Health, 2003. Available at <http://www.doh.gov.uk/cmo/cjdmiddlesbrough/>.
2. Report published into incident arising from a patient with Creutzfeldt Jakob disease in Middlesbrough. department to implement recommendations. Press release 2003/0087 London: Department of Health, 28 February 2003. Available at <http://www.info.doh.gov.uk/doh/IntPress.nsf/page/2003-0087?OpenDocument>.

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Laboratory reports of respiratory infections made to CDSC from PHLS and NHS laboratories in England and Wales

Data are recorded by week of report, but only include specimens taken in the last eight weeks (*ie*, recent specimens)

Table 1 Reports of influenza infection made to CDSC, by week of report, weeks 06-09/03

Week	06/03	07/03	08/03	09/03	Total
<i>Week ending</i>	<i>09/02/03</i>	<i>16/02/03</i>	<i>23/02/03</i>	<i>02/03/03</i>	
Influenza A	3	1	1	6	11
Isolation	–	–	–	–	–
DIF	1	1	1	1	4
Four-fold rise in paired sera	–	–	–	–	–
PCR	–	–	–	–	–
Other	2	–	–	5	7
Influenza B	9	8	26	18	61
Isolation	4	3	11	6	24

Adenovirus*	9	11	4	34	10	3	3	74
Coronavirus	–	–	–	–	–	–	–	–
Influenza A	2	–	–	4	4	1	–	11
Influenza B	10	4	17	23	6	–	1	61
Parainfluenza†	3	–	1	–	–	–	–	4
Rhinovirus	9	2	–	1	–	–	4	16
Respiratory Syncytial Virus (RSV) ‡	267	21	4	10	11	12	15	340

*Respiratory samples only. Excludes diagnoses made by electron microscopy (EM)

†includes parainfluenza types 1, 2, 3, 4, and untyped

‡ excludes diagnosis made by electron microscopy (EM)

Table 4 Laboratory reports of infections associated with atypical pneumonia by week of report

Week	06/03	07/03	08/03	09/03	Total
<i>Week ending</i>	09/02/03	16/02/03	23/02/03	02/03/03	
<i>Coxiella burnettii</i>	1	–	–	2	3
Respiratory <i>Chlamydia</i> sp.*	1	2	2	1	6
<i>Mycoplasma pneumoniae</i>	24	14	27	30	95
<i>Legionella</i> sp.	7	2	4	6	19

*includes *Chlamydia psittaci*, *Chlamydia pneumoniae* and *Chlamydia* sp detected from blood, serum and respiratory specimens

Table 5 Reports of legionnaires' disease cases in England and Wales, by week of report

Week	06/03	07/03	08/03	09/03	Total
<i>Week ending</i>	09/02/03	16/02/03	23/02/03	02/03/03	
Nosocomial	1	–	–	–	1
Community	3	–	1	2	6
Travel abroad	3†	2	3	4	12†
Travel UK	1†	–	–	–	1†
Total	7	2	4	6	19
Male	5	1	3	3	12

Female	2	1	1	3	7
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* non-pneumonic cases in brackets

One case who visited a country abroad and the UK.

Nineteen cases were reported with pneumonia. Twelve were males aged between 38 and 75 years and seven were females aged between 30 and 68 years. M 49y died. Twelve cases were associated with travel: Spain (2), Cuba (1), Egypt (1), India (1), Latvia (1), Malta (1), Thailand (1), and Turkey (1); three cases travelled to more than one country: Italy and France (1), United Kingdom and Spain (1), Sri Lanka and the Maldives (1). Six cases, three males aged between 56 and 75 years and three females aged between 30 and 62 years had community acquired infection. One F 59y had a possible nosocomial infection.

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Cryptic malaria cases in England – 2002

The overwhelming majority of malaria cases occurring in the United Kingdom (UK) are acquired abroad. Occasionally, however, a case occurs for which there is no immediately obvious explanatory travel history. Such cases are termed ‘cryptic’.

Cryptic malaria cases may be classified according to the following scheme:

1. Acute infection acquired in endemic area, but where the initial travel history has been inadequate (*eg* travel history accidentally or deliberately omitted or “runway” malaria, where the patient has not intentionally visited a malarious area but has been in transit through one).
2. Late detection of an infection acquired in endemic area (where the detection of infection and any travel history are separated by a greater interval than the usual incubation period).
3. Importation of infected mosquito to UK (*eg* “airport” malaria where the patient has contacted an imported infected mosquito in or around an airport, and “baggage” malaria where an imported infected mosquito may have been transported some distance from an airport in baggage).
4. Person to person transmission in UK by direct contact with infected blood/tissues.
5. Unexplained by any of 1 to 4 (above) (raising the possibility of indigenous transmission ie the transmission of imported malaria by local mosquito vectors).

All cases of cryptic malaria should be investigated to determine which of the above classifications might provide the correct explanation for the case. In particular it is important to identify cases that fall into categories 4 or 5 as they may have public health consequences in this country.

In 2002 three cases of cryptic malaria were identified and investigated in England. This article gives a brief description of these cases.

Case 1

Case one was a middle-aged Irish patient employed at an international airport in England. The patient developed symptoms of malaria on the 12 August 2002 and a diagnosis of *Plasmodium falciparum* infection was confirmed on the 14 August. The incubation period of *P. falciparum* is up to two weeks but the patient, although a regular traveller, had not visited any area known to be malarious in the previous two years. In March 2000, the patient had travelled to Zimbabwe and had contracted

falciparum malaria. The patient had received full treatment for this infection and repeat blood tests several months after this episode had revealed no parasites. *P. falciparum* does not have a dormant liver stage and it is considered very unlikely that there could have been a persistent infection since this time with re-activation to produce the 2002 episode. No risk factors were identified in the patient's history for direct blood/tissue transmission from any other infected individual. The most likely route of transmission would therefore appear to have been via the bite of an imported infected mosquito. The patient worked long shifts in a transit area of the airport and remembered noticing itchy mosquito bites at the end of July, although could not be sure exactly when or where the bites occurred.

The last documented cases of falciparum airport malaria in the UK occurred in 1983 in two people living close to Gatwick airport who had no relevant travel history (1). Importation of infected mosquitoes is therefore believed to be an infrequent event in the UK. *World Health Organization (WHO) International Health Regulations 1969* (2) require that aircraft are disinfested at take-off from malarious areas to prevent the importation of infected mosquitoes and the introduction of new vector species. Guidelines have been developed for proper disinfection (3) and spraying at less than the dosage recommended by the WHO is ineffective (4). The extent of compliance with regulations among carriers is not known and needs to be monitored.

Case 2

Case two was of an elderly UK-born patient who developed *P. falciparum* malaria at the end of January 2002 having been admitted to hospital for an orthopaedic procedure in late December 2001. Surgery was performed in early January. The patient had no relevant travel history or past blood transfusions, did not live near an airport and had not lived previously in a malarious area. The infection was therefore assumed to be hospital acquired. No patient known to be suffering from malaria was on the ward concurrent with the index case. Healthcare workers (HCW) who had been involved in exposure prone procedures to the patient or who worked on the ward and came from areas where malaria is endemic were screened for malaria. All were negative by both film and antibody studies except for one HCW who could not be traced. This HCW was involved in an exposure prone procedure on the index case and was considered to be the most likely source of the infection since there was anecdotal evidence of prior malaria infection in this individual as well as residence in a malarious area prior to employment at the hospital. The HCW could not, however, be proven to be the source. Although transmission to an HCW has by a needlestick injury from an infected patient been documented (5), there have been no previously documented cases of transmission as a result of infected HCWs performing exposure prone procedures on patients. Potential contacts from the same ward and speciality as the index case were identified and all but one were contacted and offered blood testing. No further cases were found among the 200 potential contacts tested.

Case 3

Case three involved a young female UK-born patient with sickle cell trait who became unwell with *P. falciparum* infection during the third trimester of pregnancy in May 2002. She had no previous history of malaria infection and had never lived in or travelled to a malarious area. She did not live near or work in an airport and nobody else in her household had travelled to, or been in transit through, a malarious area in the previous year. She had undergone a hernia operation at the end of December 2001 and during her pregnancy had had blood taken for routine tests, but no other invasive procedures were performed. An incident team investigated the possibility of nosocomial transmission during the course of her healthcare but found no evidence for this. She had no risk factors for direct blood/tissue transmission from any other infected individual in any other way. In view of the lack of evidence for another source of infection, entomological examination of the local environment was performed. At the time of this examination, no suitable mosquito vectors were identified and the local environment was not considered to be suitable for the most likely species of anopheles mosquito that could carry certain strains of *P. falciparum* in the UK (*Anopheles plumbeus*). Furthermore, in the weeks prior to the patient becoming unwell the climatic conditions were considered to have been unsuitable for the sexual stages of malaria parasite development in a mosquito vector.

The combination of sickle cell trait and pregnancy in this case is interesting since although haemoglobinopathies are generally considered to be protective against malaria, the extent of this protection is uncertain and it is possible that people with sickle cell trait might develop sub-clinical chronic infections. Pregnancy may have allowed such an infection to become manifest. This is,

however, only speculation and no possible source of initial infection was identified in this case. This case has therefore remained unexplained. Although the diagnosis of malaria was made promptly in this case, its recognition as a cryptic case was relatively delayed and this hindered consequent investigation.

Prompt identification and investigation of all cryptic malaria cases is key to facilitate their correct classification and therefore to determine whether they have any public health consequences in this country requiring intervention.

A new web-based toolkit is available on the PHLS website <http://www.phls.org.uk/toolkit/cryptic_malaria.htm> to assist health protection professionals with the initial investigation of cases of cryptic malaria cases. This has been developed by collaboration between the Malaria Reference Laboratory (MRL), the PHLS Communicable Disease Surveillance Central (CDSC), local consultants in communicable disease control with experience in managing such incidents, and the Public Health Medicine Environmental Group. CDSC/MRL holds records of all cryptic malaria cases. Reports on cryptic cases are produced annually in combination with standard reports of malaria epidemiology in the UK.

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Common animal associated infections, England and Wales: laboratory reports, weeks 06-09/03

Organism	Total reports for weeks 06-09		Cumulative totals for weeks 01-09	
	2003*	2002	2003*	2002
<i>Borrelia burgdorferi</i> *‡	2	4	2	9
<i>Leptospira hardjo</i> †§	–	–	–	–
<i>Leptospira icterohaemorrhagiae</i> †§	–	1	3	1
<i>Leptospira</i> other†§	1	–	6	1
<i>Pasteurella haemolytica</i>	–	–	1	1
<i>Pasteurella multocida</i>	16	3	32	16
<i>Pasteurella pneumotropica</i>	1	–	1	–
<i>Pasteurella</i> spp	3	–	3	3
<i>Toxocara canis</i>	–	–	–	–
<i>Toxocara cati</i>	–	–	–	–
<i>Toxocara</i> spp	–	–	–	–
<i>Toxoplasma gondii</i>	2	1	3	5
<i>Toxoplasma</i> spp	3	1	3	6

* provisional data; † by specimen date; ‡ Lyme Disease Reference Laboratory and CDSC

§ Leptospira Reference Laboratory and CDSC.

Common imported infections, England and Wales: laboratory reports, weeks 06-09/03

Organism	Cumulative total reports for weeks 06-09		Cumulative totals for weeks 01-09	
	2003*	2002	2003*	2002
Arbovirus	–	–	–	–
Dengue virus	–	–	1	2
Ascaris spp	3	–	8	5
Hookworms (unspecified)	1	1	1	7
<i>Leptospira</i> spp†	–	–	–	–
<i>Ancylostoma duodenale</i>	–	–	–	–
<i>Necator americanus</i>	–	–	–	–
<i>Hymenolepis diminuta</i>	–	–	–	–
<i>Hymenolepis nana</i>	–	–	1	4
<i>Hymenolepis</i> spp	–	–	–	–
<i>Schistosoma haematobium</i>	5	2	9	7
<i>Schistosoma intercalatum</i>	–	–	–	–
<i>Schistosoma mansoni</i>	–	1	–	6
<i>Schistosoma</i> spp	–	–	–	3
<i>Strongyloides stercoralis</i>	–	1	–	3
<i>Strongyloides</i> spp	–	–	–	–

* Provisional data

† Leptospira Reference Laboratory and CDSC