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News

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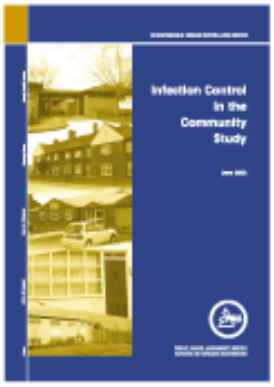
Contents

Top |

Study of infection control in the community



The report of a study on infection control in the community, conducted by the Regional Services Division of the PHLS Communicable Disease Surveillance Centre, has just been published (1). The study is the third in a series of studies (2,3) commissioned by regional directors of public health to determine the effectiveness of arrangements for the prevention and control of communicable disease and infection in England.

Infection control in the community is defined as *'the infection control service provided outside acute and major hospitals to those in a care setting'*. The importance of infection control in the community has increased over the last decade with an expansion in nursing home, residential home and hospice places and an increase in the number and type of surgical procedures carried out in primary care settings. Shorter hospital stays and minimally invasive surgery mean that infections that were once seen only in hospitals are now being identified and managed in the community. There has been considerable uncertainty about local arrangements for infection control in the community and no single pattern of provision.

The aims of the study were to describe the arrangements in England for the control of infection in the community and to develop recommended indicative standards for infection control in the community. The study was commissioned in December 2000. Since then there has been major organisational change across the NHS. The focus of the study was the adequacy of arrangements for the control of infection in local communities. Responsibility for this function now rests with the newly established Primary Care Trusts (PCTs) and will be discharged within an overall framework set by the new Health Protection Agency (HPA).

In August 2001, a questionnaire was distributed to all health authorities in England to be completed by a consultant in communicable disease control (CCDC) and nurse(s) with responsibility for infection control in the community (ICIC nurse). Users' views on the community infection control service were assessed in a 10% sample of health districts.

There was considerable variation in the arrangements and staffing levels for the infection control in the community function. The median number of ICIC nurses was 1.7 per 500,000 population. The median number of CCDCs was 1.1 per 500,000 population. Over 50% of districts reported no scientist/epidemiological support, and over 10% no administrative support for the ICIC function. The level of staffing did not correlate with workload or with ICIC outputs. Users reported unmet need and that the ICIC function was under-resourced.

The report emphasises the need for a consistent infection control service in the community with

appropriately trained ICIC staff and adequate infrastructure to support the function. It recommends that the tuberculosis contact tracing function should be considered as additional to the functions fulfilled by the ICIC nurses and not subsumed within their role.

The following ICIC model is proposed: *Each PCT must have an ICIC nurse (who may also have a wider health protection remit) who works as part of a health protection network and who participates in the functions of that network (those of the HPA at a local level). We anticipate that there will be senior ICIC nurses employed by the HPA and that these nurses would be responsible for the co-ordination of the PCT ICIC nurses within the local health protection network.*

The report provides a baseline against which new provision can be compared and provides the HPA, PCTs, and regional directors of pubic health with recommended indicative standards for infection control in the community. The report is being circulated via regional epidemiologists and is also available on the PHLS website at <http://www.phls.co.uk/publications/index.htm#reports>.

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3. Data analysis by the Regional Services Division, Public Health Laboratory Service Communicable Disease Surveillance Centre for the management and control of hospital acquired infection in acute NHS Trusts in England, 1999. *Confidential report for the NHS Executive.*

Top |

Drug resistant tuberculosis outbreak in north London – update

There have now been 88 cases of isoniazid mono-resistant tuberculosis reported as part of the recent outbreak in London (1,2,3,4). Cases share the same strain type based on initial RAPET typing at the Mycobacterium Reference Unit at Dulwich. Most have also been subjected to IS6110 RFLP typing and are indistinguishable. These 88 cases were all diagnosed in London: a further 9 cases have also been confirmed outside London in contacts of London cases. There are also 14 clinically diagnosed cases in contacts from whom no isolate has been obtained, and a further 30 contacts with evidence of infection who have been given chemoprophylaxis. One case has developed multiple-drug resistant tuberculosis. All isoniazid mono-resistant isolates from cases of tuberculosis in London will continue to be typed.

Of the 88 London cases 47 have completed treatment. Four have died, two with tuberculosis related illness. Eight of those still on treatment are reluctant to take medication as prescribed and are proving extremely difficult to treat due to complicated social and lifestyle factors. Seven have been lost to follow-up, five of whom may be infectious. Transmission has occurred in a London prison (3), and four cases of hospital- acquired infection may also have occurred.

Health professionals in London are reminded that this outbreak is continuing and of the need for prompt diagnosis and initiation of treatment, and the importance of treatment completion. The diagnosis should be confirmed microbiologically wherever possible, and in isoniazid-resistant cases, treatment regimen and duration should be modified according to British Thoracic Society guidelines (5,6). This outbreak has also highlighted the difficulties in promoting adherence to treatment for patients with complicated social problems.

The misuse of drugs, including opiates and crack cocaine, has seriously complicated treatment in a number cases. In these instances it is important that support from care providers familiar with these aspects is obtained. Antituberculosis chemotherapy induces liver enzymes and leads to rapid metabolism of opiates. Patients on maintenance programmes may need to have their dose of methadone increased as much as fourfold.

For further information, and to provide information about potentially linked cases, contact Helen Maguire, Regional Epidemiologist, CDSC London (tel: 020 7725 2734; email: h.maguire@cdsc.nthames.nhs.uk

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Top |

Occupationally acquired HIV – UK update

The first recognised transmission of HIV from a needlestick injury to a health care worker (HCW) occurred in 1984 in the United Kingdom (UK)(1). Since that time, there have been a further four documented cases in the UK (2,3). Three of these occurred in 1992 and one in 1999. The case report from 1999 describes the source patient as having evidence of failing treatment and resistant virus. In one of the reports in 1992 the HCW was given post exposure prophylaxis (at that time zidovudine only) but again there was evidence of resistance in the source patient who had been treated with zidovudine for 18 months (4).

A further 12 probable cases have been diagnosed and reported in the UK where occupational exposure is the only known risk for HIV acquisition. All these cases were in HCWs who had worked in high HIV prevalence countries and had needlestick injuries. They are classed as probable rather than definite since no resting negative specimen was obtained at the time of the needlestick injury.

All definite cases have previously been described in the scientific literature (1,2,3,4). The world literature to mid-1999 is summarised in *Occupational transmission of HIV. Summary of published reports. Data to June 1999*, available on the PHLS website at <www.phls.co.uk/topics_az/hiv_and_sti/publications/hiv_octr_1999.pdf>

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Back to top

NEWS
ENTERIC
RESPIRATORY
IMMUNISATION
HIV/STIs
BACTERAEMIA
ZOONOSES
TRAVEL HEALTH
PRIMARY CARE
DIARY
BACK ISSUES
SEARCH

Respiratory

Last updated: 1 August 2002
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Respiratory tract infections, England and Wales: laboratory reports, weeks 27-30/02

	Number of reports received				Total reports
	27/02	28/02	29/02	30/02	27-306/02
Adenovirus (excluding EM faeces)	11	29	36	18	**94**
Coronavirus	–	–	–	–	**–**
Influenza A*	1	9	5	4	**19**
Influenza B*	1	3	2	–	**6**
Parainfluenza	14	16	23	11	**64**
RS virus	–	10	6	7	**23**
Rhinovirus	12	1	6	2	**10**
Chlamydia sp	3	3	3	3	**12**
Coxiella burnetti	–	3	1	–	**4**
Legionella sp	3	3	5	6	**17**
Mycoplasma pneumoniae	135	21	22	18	**74**

*Reports include cases diagnosed by culture, immunofluorescence and serology (including single high titre).

Adenovirus (excluding types 40, 41, group F, EM faeces): 94 cases were reported. 37 patients had eye infections.

Coronavirus: no cases were reported

Influenza A: 19 cases were reported. South West region reported six cases, Northern and Yorkshire five, North West four, South East three, and Wales one. Five cases were aged 65 years or over.

Influenza B: Six cases were reported. South East region reported three cases, North West two, and South West one. Three cases were aged less than 15 years.

Parainfluenza (type 1,0; type 2,0; type 3,45; type 4,0; untyped 19): 64 cases were reported. Two patients had bronchiolitis. F 3m had hospital-acquired infection. North West region reported 16cases, Northern and Yorkshire 15, South East ten, West Midlands eight, Eastern seven, London and Wales three each, and South West. Forty-one per cent of cases were aged 1 year or less.

Respiratory syncytial virus: 23 cases were reported. Two patients had bronchiolitis. F 41y had recent history of foreign travel. Northern and Yorkshire region and Wales each reported five cases, London , North West, and West Midlands three each, South West two, and Eastern and South East one each. Nineteen cases were aged 1 year or less.

Rhinovirus: Ten cases were reported. Northern and Yorkshire reported six cases, West Midlands two, and Eastern and London regions one each. 7 cases were aged 4 years or less.

Respiratory chlamydia (*C. psittaci*, 7; *Chlamydia* sp, 5): 12 cases were reported. M 40y farmer had animal contact.

Coxiella burnetii: Four cases were reported, three of which were reported by Wales in week 28 and the other by London region.

Legionella: 16 cases were reported with pneumonia and one with non-pneumonic legionella. Sixteen were males aged 39 to 76 years and one female aged 61 years. Two males aged 53 and 65 years died. Fourteen cases were associated with travel: Italy (2), Turkey (2), France (1), Gran Canaria (1), Germany (1), Northern Ireland (1), Portugal (1), Spain (1), Tunisia (1), Spain and France (1). One case travelled to Holland, Belgium, and England and another to Tunisia and England. The case who visited Tunisia is part of a cluster. M 48y and M 53y had community acquired infection, one of which is a late reported case from 2001. M 76y may have acquired infection while in hospital.

Mycoplasma pneumoniae: 74 cases were reported. Six patients had pneumonia. M 9y was immunosuppressed. Northern and Yorkshire region reported 24 cases, West Midlands 12, Eastern and South East 9 each, North West 8, Wales 7, South West 4 and London 1. Forty-one per cent of cases were aged less than 15 years.

Travel health

Rabies and travel

Last updated: 1 August 2002
Next update due: 5 September 2002

Introduction

Rabies is a largely preventable, usually fatal, acute viral infection of the central nervous system, resulting in encephalomyelitis. It is primarily a disease of animals but can be transferred to humans through a animal bite or scratch from an infected animal. It is widespread across most continents although there are a few areas where it has never existed or been eradicated. There are estimated to be 40-70,000 deaths annually worldwide (1), although reporting from many endemic areas is incomplete. It is a rare disease in travellers, although, bites or scratches from animals within endemic countries always pose the possibility of this rare, but serious risk.

Infectious Agent

Rabies virus belongs to the family Rhaboviridae, the name being derived from the Greek rhabdos meaning rod. The viruses in this family are rod or bullet-shaped and include at least three genera of animal viruses, Lyssavirus (derived from the Greek lyssa meaning rage or frenzy and includes the Rabies virus and Lyssavirus 1 and 2), Ephemerovirus and Vesiculovirus.

Transmission

Rabies is transmitted to humans through a bite, scratch or (rarely) a lick over an open wound from an infected animal, usually dogs, cats, foxes, or bats. The virus is then introduced into wounds or through mucous membranes. Airborne transmission is rare but has been demonstrated in laboratory settings and bat caves (2). Humans carry the virus in saliva, so theoretically it can be transferred from human to human, although the only human to human transmission has been six cases acquired through corneal grafts (3).

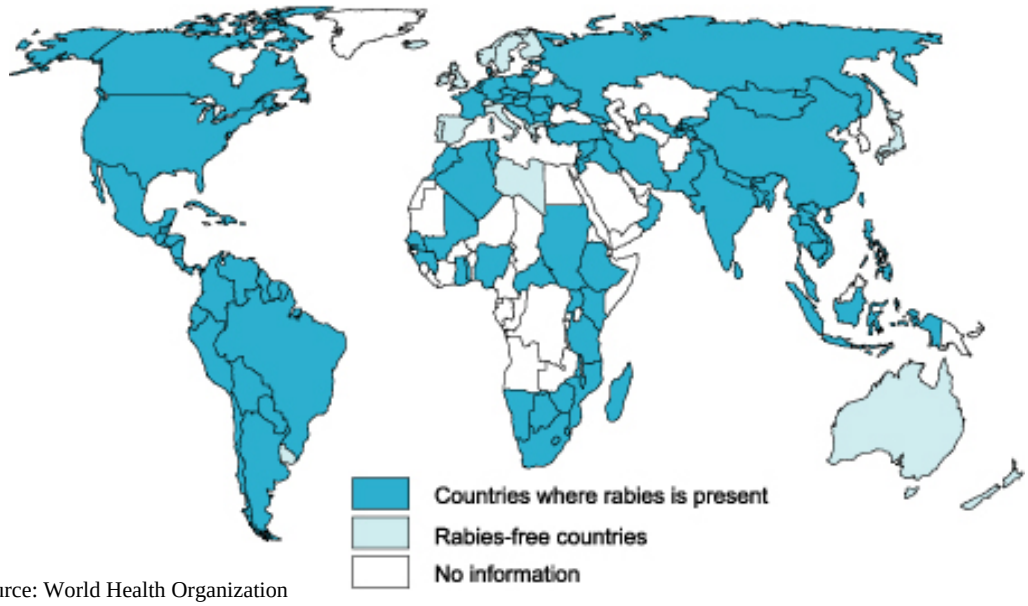
Clinical features

After a bite or scratch, the incubation period is generally between 20 and 90 days, although rare extremes have been reported of four days or several years (4).

Initial symptoms are non-specific and resemble flu, with fever, malaise, headache, and a sense of apprehension, lasting for a few days. These are then followed by excitability, aerophobia, and later hydrophobia due to spasms of the swallowing muscles, delirium, and convulsions. Death occurs after several days, due to respiratory paralysis. Case fatality rate is close to 100% in patients who develop symptoms.

Epidemiology

Figure Countries/areas reporting rabies: 2001*



*Source: World Health Organization

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The United Kingdom (UK) is rabies free and most of Western Europe is now rabies free due to the success of co-ordinated wildlife vaccination programmes, together with the availability of effective commercial vaccination for domestic animals. Rabies is endemic in wild animals (in particular, foxes) in rural areas of northern and eastern Europe and most countries in southern Europe. The African, Asian, and American continents are also endemic for rabies in wildlife.

The last indigenous case of animal rabies in the UK occurred in 1922. The last recorded case of animal rabies occurred in 1969 and 1970 when two imported dogs died soon after completing six months quarantine (5). The most recent case of animal rabies in Britain was a bat infected with European Bat Lyssavirus 2, found in Newhaven, Sussex in 1996 - the country of origin was unknown (6). The last case of human rabies acquired in the UK occurred in 1902.

Risk to travellers

Since 1900, there have been 24 case reports of imported rabies, the most recent two cases reported between May and June, 2001. One, a UK resident of Filipino origin, was bitten by a dog whilst visiting the Philippines. The other case was a visitor from a high-risk country, who had been bitten on the leg five months before presentation. Although they occurred in quick succession, the two cases were unconnected (7).

Prevention

There is no specific treatment for rabies, so pre and/or post-exposure prophylaxis are important for persons at risk from being infected.

Pre-exposure immunisation

Pre-exposure immunisation is available free on the NHS to those persons who are at occupational high risk such as:

- Laboratory workers who are handling the virus.
- Those who, in the course of their work, regularly handle imported animals, *eg* at animal quarantine centres, zoos, customs and excise.
- Licensed bat handlers.
- Workers in enzootic (endemic in the animal population) areas abroad, who by the nature of their work, are at special risk of contact with possibly rabid animals (*eg* vets or zoologists).
- Any health workers who are likely to come into close contact with a patient with rabies.

Those who put themselves at possible risk from rabies due to their travel may be recommended to take immunisation (which is not available on the NHS).

- Those going to live or travel for a month or longer in enzootic zones, especially if to rural areas.
- Those who may be travelling to remote areas where medical treatment is not immediately available.
- Those whose activities put them at apparently increased risk, eg runners, cyclists, or those who insist on petting animals.

- Those whose activities put them at apparently increased risk, eg runners, cyclists, or those who insist on petting animals.

Post-exposure Immunisation

Post-exposure vaccine is given after an individual has been bitten, scratched or experienced mucosal contact with animal saliva. A risk assessment is made for contracting rabies before administering post-exposure prophylaxis, including the type of animal, the disposition of the animal involved, the geographical area, the severity and date of the bite.For all exposures:

- The wound should be washed thoroughly with soap and water as soon as possible and rinsed under a tap for five minutes. (Tetanus vaccine and antibiotic prophylaxis as indicated).
- The name and address of owner of animal should, if possible, be obtained and the animal observed for ten days after the incident.
- Advice should be sought from a local doctor as to the endemicity of rabies in the area.High risk exposures: (as defined in Memorandum on Rabies [5])
- Previously unvaccinated individuals should be given HRIG (human rabies immune globulin) in and around the wound after cleaning and five doses of vaccine.
- Fully vaccinated individuals should be given two doses of vaccine, HRIG not required.Low risk exposures:The name and address of owner of animal should, if possible, be obtained and the animal observed for ten days after the incident.
- Previously unvaccinated individuals should be given five doses of vaccine.
- Fully vaccinated individuals should be given two doses of vaccine.Human rabies-specific immune globulin.

Human rabies-specific immune globulin (HRIG) is obtained from the plasma of immunised human donors, and is used after suspected exposure to rabies in order to give rapid protection until neutralising antibodies produced from rabies vaccine are effective. The vaccine is administered at the same time as the HRIG.There have been reports in many developing countries (particularly Africa) that there is a shortage of vaccine for post exposure prophylaxis (8). HRIG is in even shorter supply and is virtually unaffordable in most developing countries. Equine rabies immune globulin (ERIG) has previously been used instead of HRIG in some countries but most manufacturers have discontinued production because it is proving expensive and difficult to produce (due to more complex regulatory directives) (9). In some developing countries there are still a few small producers of ERIG but their practices may be questionable. The problem of obtaining both vaccine and RIG for post-exposure use emphasizes the importance of pre-exposure immunisation in travellers who are at risk.Advice on post exposure prophylaxis can be obtained from the PHLS Virus Reference Division, Central Public Health Laboratory, Colindale, tel: 020 8200 4400.

Further information on country-by-country risk and information on vaccines can be found in Health Information for Overseas Travel. London: The Stationery Office, 2002 ('the yellow book'), and Immunisation against Infectious Disease. London: The Stationery Office, 1996 (UK 'green Book').

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Zoonoses

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Contents

Common animal associated infections, England and Wales: laboratory reports, weeks 27-30/2002

	Total reports for weeks 27-306/02		Cumulative totals for weeks 01-30	
Organism	**2002***	**2001**	**2002***	**2001**
*Borrelia bugdorferi***#	18	63	68	111
*Leptospira hardjo***##	–	–	1	1
*Leptospira icterohaemorrhagiae***##	–	1	3	7
Leptospira other**##	–	1	6	4
Pasteurella haemolytica	–	–	2	2
Pasteurella multocida	11	34	99	167
Pastaurella pneumotropica	–	–	2	2
Pasteurella spp	8	18	25	47
Toxocara canis	2	–	2	–
Toxocara cati	–	–	–	–
Toxocara spp	–	–	–	–
Toxoplasma gondii	1	2	14	14
Toxoplasma spp	5	5	25	36

* 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 27-30/02

	Total reports for weeks 23-26/02		Cumulative totals for weeks 01-26	
Organism	**2002***	**2001**	**2002***	**2001**
Arbovirus	–	–	–	–
Dengue virus	–	–	6	–
Ascaris spp	9	12	64	64
Hookworm (unspecified)	3	8	108	35
Ancylostoma duodenale	–	–	–	–
Necator americanus	–	–	–	–
Leptospira spp	–	3	1	10
Hymenolepis diminuta	–	–	–	–
Hymenolepis nana	4	10	18	25
Hymenolepis spp	–	–	–	–
Schistosoma haematobium	3	2	28	31
Schistosoma intercalatum	–	–	–	–
Schistosoma mansoni	2	–	15	9
Schistosoma spp	3	2	13	13
Strongyloides stercoralis	1	1	9	17
Strongyloides spp	–	1	2	2

* provisional data