Health Protection Agency

CDR WEEKLY

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MAIN STORIES THIS WEEK:

REPORTS BY INFECTION:

Respiratory

Zoonoses

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News

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Multi-resistant *Acinetobacter baumannii*: update

Information on the nosocomial spread of *Acinetobacter baumannii* in hospitals in northern France, which resultied in serious infections and possibly associated deaths was published early in December (1). Most of the isolates in France were found to be producing an extended-spectrum B-lactamase, known as VEB-1, that does not destroy carbapenems (and is unrelated to the classical TEM and SHV plasmid-mediated B-lactamases that commonly cause acquired ampicillin resistance). The isolates remained susceptible only to imipenem and colistin (2).

This strain is different from those known to be currently circulating in the United Kingdom (UK), where the critical strains are resistant to carbapenems as well as to multiple other agents. Until recently, carbapenem resistant isolates had been rare in the UK (less than 2% had this resistance in a 50 hospital survey in 2000 [3]), but increasing numbers of carbapenem resistant isolates have since been identified among referrals to the HPA Laboratory of Healthcare Associated Infection and the Antibiotic Resistance Monitoring and Reference Laboratory (ARMRL). One resistant clone has been isolated in more than 30 hospitals in London and south-east England since April 2000. This is highly resistant to B-lactams, fluoroquinolones, and aminoglycosides. Most of the isolates are also resistant to carbapenems, though this resistance has yet to be associated with any identified b-lactamase. In addition to the clone, two strains, each with variants, have been found in London and the south-east with OXA-23 B-lactamase, which can hydrolyse carbapenems. These are consistently carbapenem-resistant, as well as showing broad resistance to other antimicrobials, though variants of one lineage are often still susceptible to tobramycin and amikacin.

The mainstay of treatment of serious infection with these multi-resistant strains of *A. baumannii*, however unsatisfactory in terms of toxicity and questionable in terms of efficacy, is polymyxin. Sulbactam is active against some carbapenem-resistant acinetobacter strains, but not against the present UK strains. Some strains are susceptible to tetracyclines (minocycline, tigecycline), but effectiveness of these agents in severe acinetobacter infection still needs to be proven.

The possible importation of multi-resistant *A. baumannii* from the conflict in Iraq in October has also been highlighted (4). Detailed investigations by the HPA Communicable Disease Surveillance Centre have subsequently shown little direct importation from Iraq or subsequent transmission, with most of the multi-resistant strains unlinked to repatriated causalities, and with several of the strains having been in circulation from before the 2003 conflict.

Nevertheless, irrespective of their source, it is clear that multi-resistant acinetobacter are increasingly causing problems generally and, in the light of this, the following actions are being undertaken by the HPA:

- a review of the multi-resistant acinetobacter situation in English acute NHS Trusts early in 2004
- the preparation of interim guidance on the control of multi-resistant acinetobacter
- a literature review to inform the further development of the interim guidance.

In the meantime, microbiologists are asked to report outbreaks of multi-resistant acinetobacter to their regional units of the HPA, under the serious untoward reporting scheme, and to send isolates to the ARMRL for further investigation. ARMRL is happy to confirm and investigate carbapenem-resistant isolates, typically in representatives from outbreaks, but does not seek other resistance types. Please contact Ty Pitt (020 8200 4400 ext 4224) or David Livermore (ext 4223) for further information.

1. *Infections ou colonisations à* Acinetobacter baumannii *multi-résistant aux antibiotiques, France. Point sur la situation au 3 décembre 2003.* [online]. Paris, France: Institut de Veille Sanitaire, 2003. [cited 2 January 2004]. <http://www.invs.sante.fr/display/?doc=presse/2003/le_point_sur/inf_a_baumannii_091203>
2. Poirel L, Menuteau O, Agoli N, Cattoen C, Nordmann P. Outbreak of extended-spectrum B-lactamase VEB1-producing isolates of Acinetobacter baumanii in a French hospital. *J Clin Microbiol* 2003; **41**: 3542-7.
3. Henwood CJ, Gatward T, Warner M, James D, Stockdale MW, Spence RP, *et a*l. Antibiotic resistance among clinical isolates of Acinetobacter in the UK, and in vitro evaluation of tigecycline (GAR-936). *J Antimicrob Chemother* 2002; **49** (3): 479-87
4. HPA. Multiresistant Acinetobacter baumanii in the United Kingdom. *Commun Dis Rep CDR Wkly* [serial online] 2003 [cited 2 January 2004] **13**(43): news. Available at <http://www.hpa.org.uk/cdr/PDFfiles/2003/cdr4303.pdf>

HPA issues statement on immunisation of children against influenza

The Health Protection Agency has issued a joint statement with the Royal College of Paediatrics and Child Health, and The Royal College of General Practitioners. The statement, which emphasises current influenza immunisation recommendations, has been prompted by the low level of vaccine uptake among children covered by the recommendations, given that children seem to be especially susceptible the virus strains circulating this season.

In particular

“Children in the following clinical risk categories, aged 6 months and over, should be offered immunisation against influenza:
1. Any child with compromised lung function, *eg* BPD. Those with severe asthma, defined as needing long-term oral steroids, should be included.
2. Any child with chronic heart disease.
3. Any child with impaired immunity, either congenital or acquired. This includes all children on immunosuppressive or anti-cancer drugs for whatever reason as well as those on long-term oral steroids.”

The full text of the statement can be found at <http://www.rcgp.org.uk/press/2003/9413.asp>.

Tuberculosis treatment outcome monitoring: first national results

A system to collect information on treatment outcome of all tuberculosis cases reported was implemented in January 2002 on tuberculosis (TB) cases reported in 2001 in England, Wales, and Northern Ireland with the aim of providing information on the national effort in TB control. The first national data from this new surveillance system are now available.

Data were collected following a protocol mainly based on European recommendations about treatment outcome monitoring, published in 1998, but adapted to the United Kingdom (UK) context. As part of enhanced tuberculosis surveillance, a standardised system of data collection has been implemented, collecting information on outcome status one year after start of treatment on all tuberculosis cases reported. The system includes safeguards to ensure the confidentiality of patients and treating physicians.

The analysis on first national results was performed on 5139 TB cases, representing 79% of all the cases reported in England, Wales, and Northern Ireland in 2001. Information on outcome was updated for more than 80% of cases in eight of the 11 regions/countries, in the remaining three regions this varied from 39% to 58%.

Key socio-demographic information on cases with outcome was compared to that on the total number of cases reported in 2001. The cases with outcome data were similar to all TB cases.

Among TB cases whose outcome was determined, 80% were reported to have completed treatment at 12 months. The treatment completion rate was significantly lower in pulmonary cases than in extra pulmonary cases (77% and 84% respectively, $p<0.001$). Among sputum-smear positive pulmonary cases, the proportion of treatment completion was 78%. Of the 1106 cases who had not completed treatment at one year, 39% had died, 19% were reported to be lost to follow-up, and 18% were still on treatment.

Outcome was found to be strongly associated with age. The proportion of treatment completion decreased in the older age groups (>80% in those aged under 60 years, and <70% in those aged 70 years and over, $p<0.001$) reflecting the contribution of death in older age. The proportion of cases lost to follow-up in the 10 to 34 years age group was 6.3%, and was higher compared to other

age groups (1.3% in those aged under 9 years, and 2.5% for those aged over 35 years, $p < 0.001$).

These data should be interpreted with caution, as outcome information was not provided for 21% of TB cases reported in 2001. The interpretation of the results will require further analyses and discussion between national, regional, and local levels.

These results show that monitoring of treatment outcome in the UK is feasible. Results from the first year are generally encouraging but the system needs to be strengthened in the light of experience, and efforts should be directed to increase the proportion of cases on whom outcome is reported. The treatment outcome surveillance protocol is currently being revised. A final report, with more comprehensive details of the results, is being prepared for publication.

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Respiratory

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Laboratory reports of respiratory infections made to CDSC from Health Protection Agency and NHS laboratories in England and Wales

Laboratory reports of respiratory infections made to CDSC from Health Protection Agency 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 49-52/03

Week	**49/03**	**50/03**	**51/03**	**52/03**	**Total**
Week ending	**07/12/03**	**14/12/03**	**21/12/03**	**28/12/03**	
Influenza A	163	101	116	47	**427**
Isolation	34	27	24	11	**96**
DIF	68	28	36	26	**158**
Four-fold rise in paired sera	–	12	4	1	**17**
PCR	21	8	10	–	**39**
Other	40	26	42	9	**117**
Influenza B	1	–	1	–	**2**
Isolation	–	–	–	–	**–**
DIF	–	–	–	–	**–**
Four-fold rise in paired sera	–	–	–	–	**–**
PCR	–	–	–	–	**–**
Other	1	–	1	–	**2**
Influenza (untyped)	–	–	–	–	–
Isolation	–	–	–	–	–
DIF	–	–	–	–	**–**
Four-fold rise in paired sera	–	–	–	–	**–**
PCR	–	–	–	–	**–**
Other	–	–	–	–	**–**

DIF = Direct Immunofluorescence.
'Other' = 'Antibody detection - Single high titre' or 'method not specified'

Table 2 Respiratory viral detections by any method (culture, direct immunofluorescence, PCR, four-fold rise in paired sera, single high serology titre, genomic, electron microscopy, other method, other method unknown), by week of report: weeks 49-52/03

Week	49/03	50/03	51/03	52/03	Total
Week ending	**07/12/03**	**14/12/03**	**21/12/03**	**28/12/03**	
Adenovirus*	32	19	17	18	**86**
Coronavirus	1	–	–	1	**67**
Parainfluenza†	41	11	12	3	**67**
Rhinovirus	4	1	2	11	**18**
Respiratory Syncytial Virus (RSV)‡	226	259	358	396	**1239**

*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 3 Respiratory viral detections by age group: weeks 49-52/2003

Age group (years)	<1 year	1-4 years	5-14 years	15-44 years	45-64 years	≥65 years	Unknown	Total
Adenovirus*	10	12	5	40	15	3	1	**86**
Coronavirus	–	–	–	–	–	–	1	**1**
Influenza A	97	92	38	75	47	70	8	**427**
Influenza B	–	–	1	–	1	–	–	**2**
Parainfluenza†	33	12	7	7	5	3	–	**67**
Rhinovirus	13	2	1	1	–	1	–	**18**
Respiratory Syncytial Virus (RSV) ‡	1002	183	11	13	6	7	17	**1239**

*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	49/03	50/03	51/03	52/03	Total
Week ending	**07/12/03**	**14/12/03**	**21/12/03**	**28/12/03**	
Coxiella burnettii	–	–	1	–	**1**
Respiratory *Chlamydia* sp.*	6	3	3	–	**12**
Mycoplasma pneumoniae	11	2	15	5	**33**
Legionella sp.†	5	10	8	2	**25**

*includes *Chlamydia psittaci*, *Chlamydia pneumoniae*, and *Chlamydia* sp detected from blood, serum, and respiratory specimens
† non-pneumonic cases in brackets

Table 5 Reports of legionnaires' disease (pneumonic and non-pneumonic*) cases in England and Wales, by week of report

Week	49/03	50/03	51/03	52/03	Total
Week ending	**07/12/03**	**14/12/03**	**21/12/03**	**28/12/03**	
Nosocomial	–	–	–	–	**1**
Community	2	5	4 (1)	22	**11 (1)**
Travel abroad	2	5	3	1	**11**
Travel UK	1	–	1	–	**2**
Total	**5**	**10**	**8 (1)**	**2**	**25 (1)**
Male	2	7	5 (1)	2	**16 (1)**
Female	3	3	3	–	**9**

* non-pneumonic cases in brackets

Twenty-five cases were reported with pneumonia and one as a non-pneumonic case: 17 males aged between 35 and 78 years and nine females aged between 37 and 71 years. Twelve cases were due to community- acquired infection, three of which were involved in the Hereford outbreak. Four deaths occurred, M 78y and F 37y community related, F 70y travel related and M 46y possible nosocomialy acquired.

Thirteen cases were travel associated: Spain four, England, Malta, and Mexico two each, England and Greece, Greece, and Turkey one each.

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Common animal associated infections, England and Wales: laboratory reports: weeks 49-52/03
Common imported infections, England and Wales: laboratory reports: weeks 49-52/03

Common animal associated infections, England and Wales: laboratory reports: weeks 49-52/03

	Total reports for weeks 49-52		Cumulative totals for weeks 01-52	
	2003*	2002	2003*	2002
*Borrelia bugdorfer**‡	4	10	281	339
Leptospira hardjo†§	–	–	–	6
Leptospira icterohaemorrhagiae†§	–	5	5	21
Leptospira other†§	–	4	20	20
Pasteurella haemolytica	–	–	3	4
Pasteurella multocida	16	28	269	208
Pastaurella pneumotropica	–	1	8	5
Pasteurella spp	8	11	86	61
Toxocara canis	–	–	1	3
Toxocara cati	–	–	–	–
Toxocara spp	–	–	3	–
Toxoplasma gondii	–	6	35	33
Toxoplasma spp	5	13	57	63

* 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 49-52/03

Organism	Total reports for weeks 49-52		Cumulative totals for weeks 01-52	
	2003*	2002	2003*	2002
Arbovirus	–	–	–	–
Dengue virus	1	1	22	13
Ascaris spp	4	16	101	107
Hookworms (unspecified)	2	8	70	130
Leptospira spp†	–	1	6	7
Ancylostoma duodenale	–	–	–	–
Necator americanus	–	–	–	–
Hymenolepis diminuta	–	–	–	–
Hymenolepis nana	1	5	15	26
Hymenolepis spp	–	–	–	–
Schistosoma haematobium	–	11	28	48
Schistosoma intercalatum	–	–	–	–
Schistosoma mansoni	–	2	11	19
Schistosoma spp	–	6	7	26
Strongyloides stercoralis	–	10	35	22
Strongyloides spp	1	1	7	4

* Provisional data
† Leptospira Reference Laboratory and CDSC