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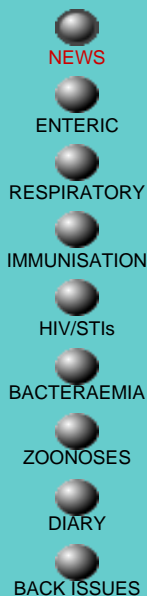
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Salmonella typhimurium definitive phage type 104 in halva

In early June 2001, an outbreak of infection with *Salmonella typhimurium* definitive phage type (DT)104 was reported from Sweden involving 27 cases associated with consumption of halva. *S. typhimurium* DT104 was also isolated from five jars of halva (1). Halva (helva or halavah) is a Turkish candy made with ground sesame seeds and honey, often with fruit and nuts added. In the United Kingdom (UK) these types of products are commonly sold through delicatessen stores. The *S. typhimurium* DT104 strains involved in the outbreak are resistant to ampicillin, chloramphenicol, streptomycin, sulphonamides, and tetracyclines (R-type ACSSuT) (2). On 19 June an international alert notification was distributed through the European Commission's Rapid Alert System for Food (1). A request for information was also sent via Enter-net on 29 June 2001 to ascertain whether any other countries had any cases that may be associated with this product (2). Australia has identified 14 cases associated with two other brands of this product (2), and both Norway and Germany have identified suspected cases with Turkish or middle-eastern backgrounds (3,4). Subsequent sampling in both Australia and Germany has yielded *S. typhimurium* DT104 (R-type ACSSuT) from halva products (2).

Information on the UK importation of batches of halva that have been implicated in outbreaks of *S. typhimurium* DT104 infection in Sweden, Germany, and Australia is incomplete. *Salmonella* was not found in 90 samples of recently imported Turkish and Lebanese halva tested by Chelmsford PHL. Local sampling is being undertaken by the PHLS and local authority environmental health departments to determine whether any of these products on sale in England and Wales are contaminated with *Salmonella* spp. One sample of halva has tested positive for *S. typhimurium* DT104 (R-type ACSSuT) by the PHLS London Food, Water and Environmental Laboratory. Molecular typing of this food isolate together with recent human isolates is in progress in the PHLS Laboratory of Enteric Pathogens (LEP).

From 1 January to 31 July 2001 the LEP has reported on 379 human isolates of *S. typhimurium* DT104 in England and Wales and of these, 229 have the R-type ACSSuT. This number compares with 439, of which 293 had the R-type ACSSuT, during the same period in 2000.

CDSC would be grateful for information on any suspected or confirmed *S. typhimurium* DT104 infection occurring in people known to have consumed halva. Contact Sarah O'Brien or Iain Gillespie, tel: 020 8200 6868 (ext 4422 or 4486).

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Use of Malarone as prophylaxis against malaria

The new *Guidelines for malaria prevention in travellers from the United Kingdom for 2001* now recommends a choice of three drugs for prophylaxis against malaria in the chloroquine resistant areas of

the world, notably sub-Saharan Africa (1). These drugs are mefloquine (Lariam), doxycycline (Vibramycin/generic), and Malarone. Malarone is the trade name for a fixed combination of atovaquone 250mg and proguanil 100mg. All three drugs are regarded as approximately equally effective. Each has individual contraindications and possible side effects which preclude their use amongst specific groups and influence the recommendations made to the individual traveller.

Malarone, although used as an effective treatment for some years, is the newest of the drugs for prophylaxis. It has the shortest course duration, making it attractive for compliance. It is also believed to have fewer serious side effects and is the most expensive when compared with the other two drugs.

There has been a requirement for additional drugs to extend the choice of malarial chemoprophylactics. Increasing resistance to each new drug may be expected to limit its period of greatest use to about a decade, and work needs to begin on the next agent each time a new one is introduced (2).

The specification for an ideal prophylactic drug is a demanding one. Not only should it be effective against *Plasmodium falciparum*, and preferably *P. vivax* and other species, and not be susceptible to the emergence of parasite resistance for many years; but it should also have the shortest possible duration of prophylactic course and have no appreciable side effects even when taken for weeks or months. These exacting standards are expected by a (mainly) well population of travellers who find it unacceptable to be made unwell by more than minor side effects while travelling for business or pleasure.

Malarone fulfils some of these criteria better than the other available drugs. Reports of neuropsychiatric effects in a minority of mefloquine users, and photosensitivity, oesophagitis, and candidiasis in some of those on doxycycline have resulted in a search for an effective chemoprophylactic associated with fewer adverse events. Malarone was approved for both treatment and prophylaxis of malaria in the United States in July 2000. It has been used therapeutically in the United Kingdom for some years and was licensed for prophylaxis in May 2001 being approved for use in adults for up to four weeks in a malaria area.

Efficacy

The previous *Guidelines for the Prevention of Malaria in Travellers from the UK, 1997* had listed mefloquine as the preferable drug and proguanil plus chloroquine as alternative drugs for sub-Saharan Africa (3).

Surveillance is constantly required to identify areas of increasing chloroquine resistance. Reports of severe malaria cases with some fatalities in The Gambia, west Africa and other reports of widespread chloroquine resistance were instrumental in the reasoning for a change in advice for the new guidelines (4). The current advice is to recommend the first three drugs (mefloquine, doxycycline and Malarone) as the preferable regime for sub-Saharan Africa, with the further demotion of proguanil plus chloroquine as an alternative offering substantially less protection.

The efficacy of Malarone as a prophylactic has been demonstrated in several studies in residents of endemic areas (5,6,7), and of non-immune travellers and military personnel (8,9,10).

Adverse events

The reports of less serious side effects of Malarone appear comparable with those of other antimalarials, but serious adverse events appear rarer (8,11). This apparent lack of serious events was expected, as the constituents of Malarone are already in use. Proguanil is well known as a malarial chemoprophylactic and atovaquone has been used in the acute treatment and prophylactic management of *Pneumocystis carinii* pneumonia in HIV patients. In these patients, some of whom took 1500mg daily for up to two and a half years, the drug was found to be generally safe and well tolerated (12). The drugs act synergistically against the malaria parasite, but have not previously been used together and continued surveillance of possible adverse events will be required.

Compliance with Malarone as a prophylactic is expected to be better than with other drugs. The course has to be commenced only one to two days before entry into the malaria area, continued whilst there and for only seven days afterwards. This is due to its causal prophylactic effect killing the developing hepatic stages of the parasite (13). Malarone is, however, taken daily, while some travellers express a preference for a once weekly regime. Mefloquine is the only drug to fit this requirement, but it should be commenced two and a half weeks prior to departure and continued for four weeks after return. This compares with doxycycline taken daily from one to two days pre travel and also four weeks on return.

Malarone is a welcome addition to the limited range of malaria chemoprophylactics for use in chloroquine resistant areas. It is particularly suitable for adults on short visits in whom compliance with a longer course could be problematic and for those who have contra indications to the other drugs.

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Infant botulism: update

In June 2001, a 5 month old baby was admitted to hospital with a clinical diagnosis of infant botulism (1). The diagnosis was confirmed by PHLS Food Safety Microbiology Laboratory (FSML) and was due to *Clostridium botulinum* toxin test B. Alerts and enquiries to paediatric intensive care units and consultants in communicable disease control yielded no further suspected cases.

Two different foods from the baby's household were found to be positive for the presence of *C. botulinum*. These were a dried rice pudding powder (which contained *C. botulinum* type A spores) and an infant formula milk powder (which contained *C. botulinum* type B spores). Both products were already opened when tested.

Unopened samples of the dried rice pudding powder from the same batch (and subsequent batches) were tested by FSML and *C. botulinum* organisms were not detected.

Unopened samples of the same batch of infant formula milk powder were obtained from the manufacturer by the Food Standards Agency (FSA) (2). One of five samples was positive for the presence of *C. botulinum* type B organisms. A conclusive link between the product and the baby's illness is, as yet, unproven and further 'fingerprint' testing of the isolates from the baby and the milk powder sample is underway. The manufacturer of the infant formula milk powder has, however, made a public announcement to withdraw the affected products on a precautionary basis.

Infant botulism is very rare and this is only the sixth confirmed case in the United Kingdom. The last case was reported in 1994. The FSA intends to meet with all manufacturers of baby foods of this type later in the year to ensure that infant botulism is adequately accounted for in their hazard analyses.

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Typhoid fever outbreak in Newport, Wales: update

There have now been four confirmed cases of typhoid in children from the Newport area, all confirmed as Vi-phage type A by the PHLS Laboratory of Enteric Pathogens (LEP) (1). The cases became ill between 21 and 31 July 2001. Three cases live in the Pillgwenlly district of Newport and the fourth had connections with, and visited, the area during the incubation period. None of the cases or their family members gave a history of recent travel either abroad or outside of the south Wales area.

Investigations have focused on drinking water, food (particularly meals outside the home), recreational activities and contact with flood water. None of the cases had drunk untreated water and there have been no problems with the mains supply. There were floods in the Pillgwenlly area during the first week of July following several days of heavy rainfall. None of the children, however, experienced flooding at home or played in flood water. Cases consumed take-away food from a variety of premises in the Pillgwenlly area during the incubation period. Premises named by two or more cases have been subjected to detailed investigation including environmental inspection, interview of food handlers and microbiological testing of faecal samples from food handlers, drain swabs, and environmental swabs. One take-away shop associated with all four cases has been closed pending further investigations, including ongoing case searching among recent customers.

Some of the food handlers under investigation may have worked in the food trade in North London until about a year ago. CDSC Wales would be grateful for information on suspected or confirmed *Salmonella*

typhi infection occurring in people known to have visited the Pillgwenlly area in Newport or who ate food purchased there, and also on indigenous typhoid cases linked to the north London area in recent years. Contact Meirion Evans or Susan Hahné, tel: 029 20 521 997.

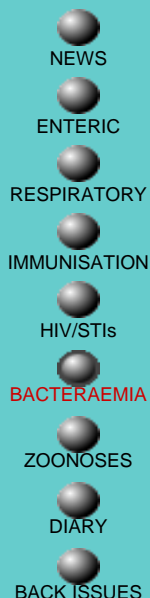
1. PHLS. Typhoid fever outbreak in Newport, Wales. *Commun Dis Rep CDR Wkly* [serial online] 2001 [cited 15 August 2001]; **11** (32): news. Available at <www.phls.co.uk/publications/CDR%20Weekly/archive/news3201.html#typhoid>

Annual conference on epidemiology and control of communicable diseases and environmental hazards – last call for papers

An annual conference on the epidemiology and control of communicable diseases and environmental hazards is being held at Dublin Castle, Dame Street, Dublin, Ireland from Monday 5 November to Wednesday 7 November 2001. It is aimed primarily at consultants in communicable disease control, but should also interest medical microbiologists, and environmental health and nursing professionals involved in the control of communicable disease and environmental hazards. Short papers on recent outbreaks and surveillance initiatives will be presented. Abstracts are invited for papers and posters on the following conference themes: environmental hazards, social inequalities and infectious disease, antimicrobial resistance and hospital acquired infection, immunisation issues, and control and prevention policies: evidence and effectiveness. **Abstracts need to arrive no later than 5 September.** For more information about the conference, including submission of papers, please contact Vivienne Fitch at PHLS CDSC, 61 Colindale Avenue, London NW9 5EQ (tel: 020 8200 6868 ext 4569; fax: 020 8200 7868; email: vfitch@phls.org.uk).

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***Staphylococcus aureus* bacteraemia: England and Wales, April to June 2001**

The main changes in *Staphylococcus aureus* bacteraemia reporting this quarter are:

- An overall increased reporting rate across England and Wales, with major increases in Northern and Yorkshire and the North West, where the number of reports doubled. This probably reflects better reporting.
- Continuing improvement in the reporting of methicillin susceptibility, reports lacking this information now falling to the lowest figure yet, 8%.
- The South West region has achieved 100% completeness of reporting of methicillin susceptibility.

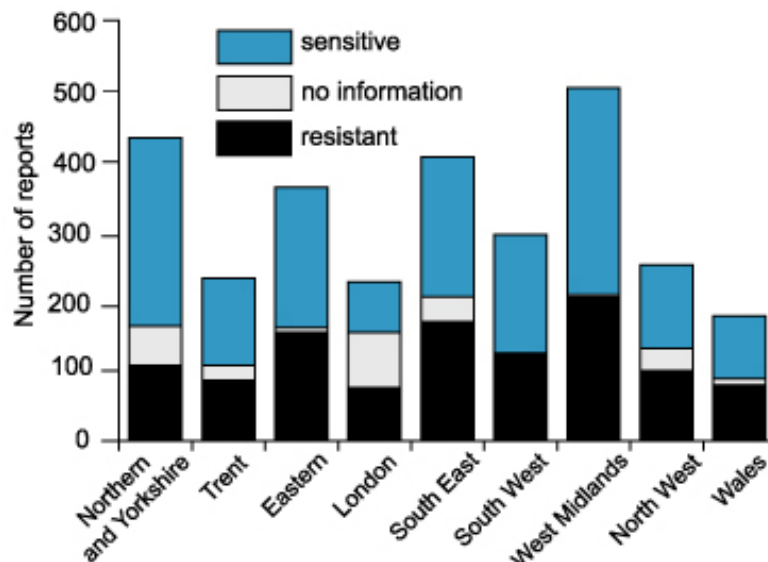
Laboratories in England and Wales reported 2884 *S. aureus* bacteraemias to PHLS Communicable Disease Surveillance Centre during the second quarter of 2001, a 15% increase on the number reported in the first quarter of the year (2497) (1) and a 41% increase on those for the same period last year (2041) (2) (table, figure 1). As before, the highest number of reports in the quarter, 503, was received from the West Midlands, an 18% and 31% increase on their reports in the first quarter of this year and over the second quarter of 2000 respectively. Northern and Yorkshire had the second highest number of reports, 432, which marks an 88% increase in the number of reports from laboratories in Northern and Yorkshire compared to the previous quarter and a 156% increase compared to this period last year. There was also a dramatic increase in the number of reports from the North West, 104% (43% increase on this period last year), which suggests that reporting difficulties noted in the latter half of 2000 have been addressed (3).

Table Methicillin resistance data in *Staphylococcus aureus* bacteraemia reports: English health regions and Wales, weeks 14 to 26 2001

	Resistant (%) a	Sensitive (%) b	Resistant and sensitive (% resistant)	No information (%) c	Total d
Northern and Yorkshire	108 (25)	268 (62)	376 (29)	56 (13)	432
Trent	87 (38)	124 (53)	211 (41)	21 (9)	232
Eastern	155 (43)	200 (55)	355 (44)	7 (2)	362
London	76 (33)	72 (32)	148 (51)	79 (35)	227
South East	170 (42)	199 (49)	369 (46)	36 (9)	405
South West	125 (43)	169 (57)	294 (43)	– (–)	294
West Midlands	205 (41)	294 (58)	499 (41)	4 (1)	503
North West	100 (40)	119 (47)	219 (46)	32 (13)	251
Wales	80 (45)	89 (50)	169 (47)	9 (5)	178
England and Wales	1106 (38)	1534 (53)	2640 (42)	244 (8)	2884

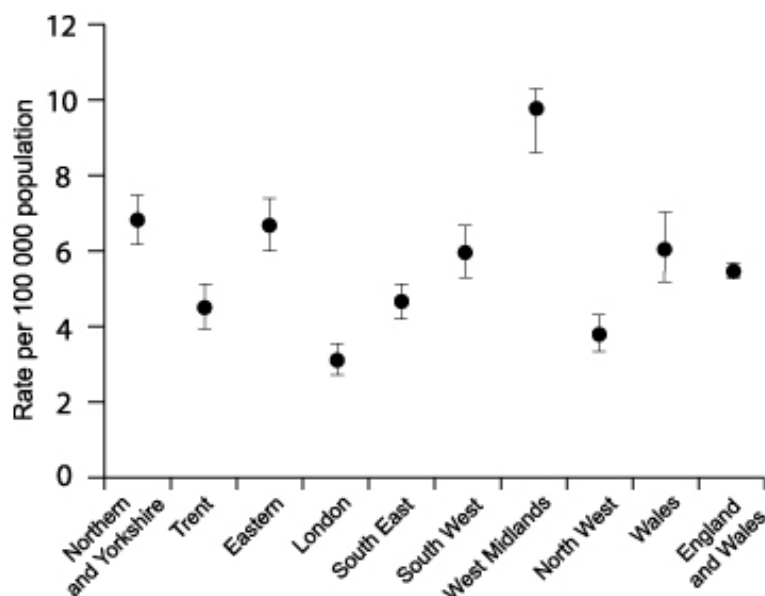
* provisional data; a+b+c=d

Figure 1 *Staphylococcus aureus* bacteraemia reports and methicillin susceptibility data: English health regions and Wales, weeks 14 to 26 2001



The overall rate of reporting for England and Wales was 5.5 per 100,000 population over the quarter, ranging from 3.1 per 100,000 in London to 9.4 per 100,000 in the West Midlands (figure 2). This compares to rates of 4.7 and 3.9 per 100,000 for the previous quarter of this year and the second quarter of last year respectively. This is an increase in the overall England and Wales reporting rate and reflects notable increases in Northern and Yorkshire and the North West regions, whilst the already high rate in the West Midlands is still rising. There were decreases in the reporting rate in Trent and the South West.

Figure 2 *Staphylococcus aureus* bacteraemia reporting rates (95% confidence intervals) per 100,000 population: English health regions and Wales, weeks 14 to 26 2001

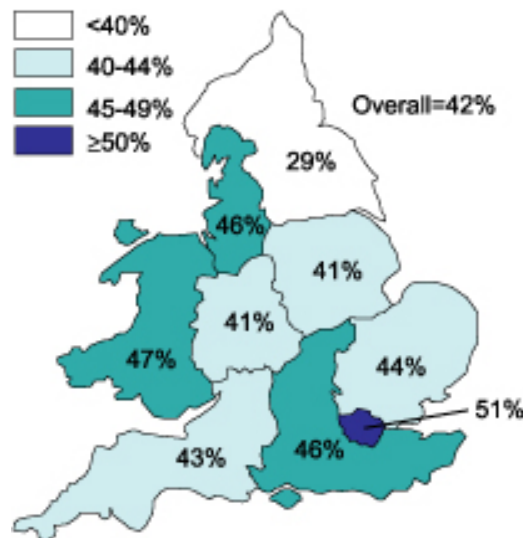


Methicillin (or oxacillin) susceptibility was not recorded in 244 reports, 8% of the total. This is the best result since the enhanced *S. aureus* bacteraemia reporting began in 1999 (4). As in the previous quarter, London region had the highest proportion of reports (35%) lacking information on methicillin susceptibility, but this marked an improvement from 51% in the first quarter of this year. This was followed by Northern and Yorkshire, which lacked information on methicillin susceptibility in 13% of reports (33% in the first quarter). Wales and the remaining English regions had 9% or fewer reports lacking this information, which marked a slight deterioration for Trent and Wales. South West region has become the second region, after West Midlands in the first quarter of 2001 to achieve complete methicillin susceptibility reporting.

Forty-two per cent of reports from England and Wales with information on methicillin susceptibility, indicated methicillin resistance (figure 3). This is similar to the 40% for the second quarter of 2000 and a slight fall on the 46% for the first quarter of this year (1,2). London region still has the highest reported level of methicillin resistance at 51%, but this has dropped slightly from 60% last quarter. There was a substantial fall in the level of methicillin resistance in Northern and Yorkshire, from 50% to 29%. This and the reduced London methicillin resistance rate might indicate an association with improved reporting of methicillin susceptibility, as both these regions have made major improvements in reporting methicillin susceptibility over the quarter. The general improvement in reporting of *S.*

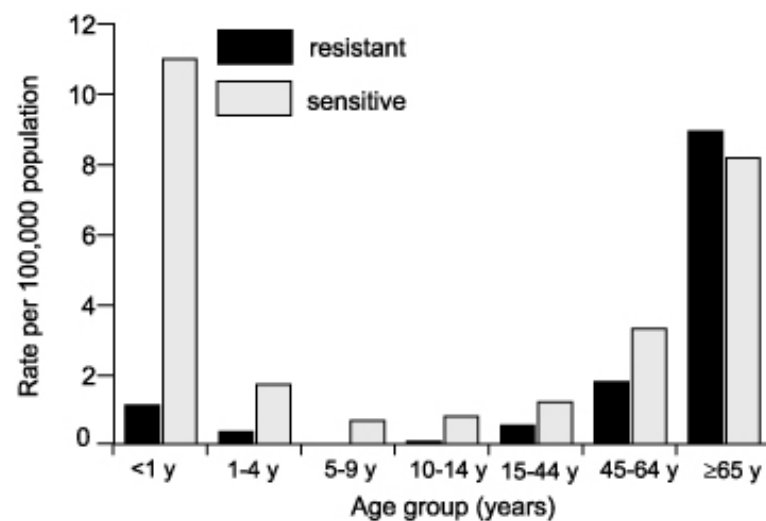
aureus bacteraemias in the North West, however, appears to have had the opposite effect, raising the recorded methicillin resistance rate from 37% to 46%.

Figure 3 Methicillin resistance data in *Staphylococcus aureus* bacteraemia reports - MRSA as a percentage of isolates whose susceptibilities were reported: English health regions and Wales, weeks 14 to 26 2001



Examination of the April to June figures by age group shows that the highest rate of reporting for methicillin susceptible *S. aureus* (MSSA) is in those aged under one year, while the highest rate for MRSA is in those aged over 65 years. The latter group also has the second highest reporting rate for MSSA (figure 4).

Figure 4 Age-specific *Staphylococcus aureus* bacteraemia reporting rates and methicillin sensitivity per 100,000 population: English health regions and Wales, weeks 14 to 26 2001



Bacteraemia reports as required under the new mandatory bacteraemia surveillance scheme (5) are now flowing in to the regions, for regional and subsequent national collation. When regional reports are fed back to individual trusts, it is important that the trusts check the denominator information which has been used to calculate their MRSA rate according to the trust's activity. This activity information may be out of date if there have been recent mergers or changes in practice. An update on preliminary findings should be published in the next quarterly report.

In the meantime, the *Lancet* recently reported linezolid resistance in a strain of MRSA isolated from a patient undergoing peritoneal dialysis in the United States (6). This is a timely reminder to send isolates which appear to be resistant to linezolid, vancomycin, teicoplanin or quinupristin/dalfopristin to the Antibiotic Resistance Monitoring and Reference Laboratory (ARMRL) at the Central Public Health Laboratory, Colindale, for confirmation of resistance and further investigation.

These reports would not be possible without the enduring weekly contributions from microbiology colleagues in laboratories across England and Wales, without whom there would be no surveillance data, and the continuing efforts of regional epidemiologists. Laboratory reporting is the bedrock of national surveillance. In addition, the support from colleagues within the PHLS, CPHL in particular, is valued in the preparation of these reports. These contributions are greatly appreciated.

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