EPI-INSIGHT

IONAD NAISIUNTA FAIRE GALAIR

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IN THE NEWS

Outbreak of Yellow Fever in Senegal

As of the 24th October, the Ministry of Health in Senegal has reported 41 cases of yellow fever in the Mbacké, Touba and Bambey health districts, Diourbel region, and Gossas and Fatick districts, Fatick region.[1 2 3] Four people have died. Laboratory confirmation was carried out by the WHO Collaborating Centre at the Institut Pasteur in Dakar. Thirty three cases have been reported from the city of Touba.

On October 1st 2002, a mass vaccination campaign began and a total of 800,000 people have been vaccinated. However, national vaccine stocks are not sufficient to immunise the target population and additional vaccine is needed. WHO staff have responded to a request for international assistance from the Ministry of Health and are helping to contain the outbreak. They are working with the Ministry on the management of the vaccination campaign, including safety and monitoring of adverse events, enhancing yellow fever surveillance in the country and the coordination of the programme to control the outbreak. WHO are also working with other agencies to meet the need for additional vaccine.

Yellow fever is a viral disease transmitted to man by the mosquito. It is endemic in the tropical regions of Africa and Latin America. Although it is rare in travellers it can cause serious illness and death in those who have not been vaccinated. General precautions to avoid mosquito bites, such as insect repellent, protective clothing and mosquito nets are important means of preventing infection.[4] Vacination is recommended by CDC for those planning to travel to Senegal.

Reference

1. WHO. Yellow fever, Senegal – update. *WER* 2002; **77**: 349.
2. WHO. Yellow fever, Senegal – update. *WER* 2002; **77**: 357.
3. CDC. Yellow fever, Senegal – CDC Traveller's Health. Available at http://www.cdc.gov/travel/other/outbreak_yellowfever_senegal.htm
4. CDC. Yellow fever disease and vaccine information. Available at http://www.cdc.gov/travel/yfever.htm

Nosocomial Transmission of TB from a Patient Detained under the Public Health Act 1984 in the UK.

A male patient with a diagnosis of multi-drug resistant TB, who was taking his anti-tuberculosis medications intermittently, was admitted to a number of hospitals in the Kent area. Eventually, due to his infectious state and refusal to take reasonable precautions to prevent transmission to others, he was detained in February 2002 under Sections 37 and 38 of the *Public Health Act* 1984, on an infectious diseases unit within a hospital.[1]

Subsequently, another man, who had been a patient on the same unit within this hospital during the time of the detention of the index case, was found to have multi-drug resistant TB. Molecular fingerprinting with IS6110RFLP typing showed the strains to be indistinguishable.

A local incident control team was established to identify potentially exposed staff and patients at risk of infection. This involved a review of the medical notes of more than 300 patients, who had been in the unit during the detention of the index case or during the second case's admission. Of these patients, 75 were identified as being immunocompromised and were invited for screening. In addition, staff that were in close contact with either case were invited for screening. The investigation is ongoing.

The UK *Public Health Act* 1984 allows persons who pose a serious infection risk to others to be removed and detained in a place of safety, most usually a hospital for infectious diseases. However, compulsory treatment is not permitted under the Act. Equivalent legislation exists in Ireland, the *Health Act* 1947 with the same limitations regarding treatment.

There are many practical and ethical difficulties associated with the detention of uncooperative and infectious TB patients under current legislation in the UK and Ireland. A major issue is the availability of an appropriate place of safety in which to care for such patients. Opportunities to effectively restrict the movement of individuals detained in hospitals for infectious diseases are limited and a significant proportion of other patients in the infectious diseases unit may be immunocompromised and hence at greater risk from exposure to tuberculosis.

References

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Meningococcal Disease in Ireland 2001/2002

Introduction

Invasive meningococcal disease (IMD) usually presents as meningitis or septicaemia, or a combination of the two. IMD is an infection caused by the organism *Neisseria meningitidis*. Infants and young children are most susceptible and *N. meningitidis* infections are an important cause of infection in developed and developing countries. Prior to the introduction of the meningococcal C conjugate (MenC) vaccine in Ireland in October 2000, group C accounted for 30-35% of cases of IMD and group B for approximately 70%. The MenC vaccine has by now been offered to everyone under 23 years of age and has also been included as part of the primary immunisation schedule for infants. This vaccine has been extremely successful in reducing group C disease in Ireland, with the number of cases being reduced by 76% in 2001 when compared with 2000.

Materials and Methods

All cases of bacterial meningitis including meningococcal septicaemia occurring in Ireland should be notified through the Weekly Infectious Disease Notification System and also the Enhanced Surveillance System for Bacterial Meningitis. Details of this system have been outlined previously.[1]

For surveillance purposes cases of IMD are classified as "definite", "presumed" or "possible", details of which are outlined in the Department of Health and Children's Working Group report on bacterial meningitis and related conditions.[2]

In the northern hemisphere IMD has a seasonal peak in winter-spring and for this reason the epidemiological year July-June tends to be used. Therefore, in this report data on the epidemiological year from July 2001 to June 2002 (2001/02) is presented and compared with data from the two previous epidemiological years - 2000/01 and 1999/00. These data relate to the date the cases were notified and therefore may differ slightly from the data reported by the Meningococcal Reference Laboratory (MRL). The 1996 census was used as the population data source.

Results

Total IMD

In the epidemiological year 2001/02, there were 269 cases of IMD notified in Ireland. As three of these cases were acquired abroad i.e. imported, they will be omitted from the analysis in this report. The three imported cases were all group B, two were imported from the UK and one from Spain. One case each was notified by the Eastern Regional Health Authority, the North Eastern Health Board and the South Eastern Health Board.

Excluding the three imported cases, 266 cases of IMD (7.3/100,000 population) were notified in 2001/02. Therefore, total IMD notifications declined by 34% compared to the same period last year [2000/01: 402 notifications excluding 5 imported cases; 11.1/100,000 population] and by 52% compared to the same period the previous year [1999/00: 554 notifications excluding 2 imported cases; 15.3/100,000 population] (Figure 1). Two hundred and twenty four cases were classified as definite (84.2%), 20 as presumed (7.5%) and 22 as possible (8.3%) (Table 1). One hundred and thirty six were male (51%) and 130 were female (49%). The incidence ranged from 4.8 per 100,000 in the Western Health Board to 9.7 per 100,000 in the Midland Health Board (Table 1).

Serogroup details and laboratory confirmation

Of the 266 cases notified, 211 were group B, 21 group C, six group W135, one group Y, three non-groupable and 24 no organism detected. None of the group W135 cases had links with the Hajj outbreak.[3] A breakdown of the cases by serogroup and classification is presented in Table 1.

A total of 243 cases were laboratory-confirmed. Only two of the 243 were not confirmed by MRL - one was culture positive from an eye swab (possible case), the other was microscopy positive (presumed case; not cultured or detected by PCR therefore no group). Of the 241 cases confirmed by MRL, 57% were PCR confirmed (n=138), 36% culture confirmed (n=86) and 7% were serology confirmed (n=17).

Group B

In 2001/02, group B IMD notifications declined by 11% (211 cases, 5.8/100,000) when compared with 2000/01 (238 cases, 6.6/100,000) and by 24% when compared with 1999/00 (277 cases, 7.6/100,000) (Figure 1). The incidence of group B IMD in 2001/02 ranged from 7.8/100,000 in the Midland Health Board down to 3.8 in the SEHB (Table 2). The incidence has increased in the Midland Health Board (7.8/100,000 versus 6.8/100,000) and Southern Health Board compared to last year (6.8/100,000 versus 4.8/100,000). The age-specific incidence rates for group B disease were highest in the less than one year olds (117/100,000) and 1-4 year olds (32/100,000) (Table 3).

Of the 211 group B cases 51 were serotyped, with 4: P1.4 being the predominant strain (27%; 14/51), which has also been the predominant strain in previous years. However, over 20 different group B serosubtypes were identified in 2001/02.

Group C

Group C IMD declined by 68% in 2001/02 (21 cases, 0.6/100,000) when compared with 2000/01 (66 cases, 1.8/100,000) and by 87% when compared with 1999/00 (167 cases, 4.6/100,000) (Figure 1). The predominant group C strain was serotype 2a: P1.5: P1.2. The incidence of group C disease ranged from 0 per 100,000 in the Western Health Board to 1.0 per 100,000 in both the Eastern Regional Health Authority and the Midland Health Board (Table 2). Like group B disease the incidence rate was highest in the younger age groups, 6.1 per 100,000 for <1 year olds and 3.0 per 100,000 for 1-4 year olds (Table 3). Group C disease declined in all age groups in 2001/002 when compared to 1999/00, a time when MenC vaccine had not yet been introduced, declining by 100% in 5-9 year olds, by 94% in 15-19 year olds and by 90% in 10-14 year olds.

In 2001/02, five of the 21 group C cases had received the MenC vaccine. Two of these cases have been classified as true vaccine failures as the persons in question had received the necessary number of MenC vaccine doses recommended for that age group at least 14 days prior to onset of illness. The three other cases have been classified as partial vaccine failures as these persons had not fully completed the MenC vaccine schedule recommended for that age group.

Other serogroups

Apart from group B and C IMD, a small number of cases due to other serogroups are reported in Ireland each year. These non-B, non-C serogroups are group W135, group Y and non-groupable (NG) strains. Combined together these other serogroups account for 10-15 cases of IMD each year. These other serogroups have not begun to emerge in place of the group C IMD in Ireland with the numbers reported each quarter remaining largely unchanged since the introduction of the MenC vaccine.

IMD deaths

There have been 10 IMD deaths in 2001/02, compared to 14 in 2000/01 and 26 in 1999/00. The case fatality rate in 2001/02 was

3.8% -10 deaths/266 notifications. As the 10 deaths were all in definite cases of IMD the CFR was higher if only definite cases were included as the denominator – 4.5% (10 deaths/224 notifications). Seven of the deaths were due to group B IMD (CFR, 3.3%), two group C (CFR, 9.5%) and one group W135. None of the deaths due to group C disease had received the MenC vaccine. The seven group B deaths all occurred in children <5 years of age, whereas the two group C deaths were in adults (Table 3).

Discussion

The introduction of the MenC vaccine has been extremely successful in reducing morbidity and mortality due to group C disease and also the overall incidence of IMD in Ireland. In 2001/02 the incidence of group C disease declined by 87% compared with the period just prior to the introduction of the MenC vaccine (1999/00). Reductions in group C IMD have been seen in all age groups, with reductions of 90-100% being reported in the 5-19 year olds. The incidence of group C disease has declined in all health boards with no health board having an incidence rate greater than 1.0 per 100,000 in 2001/02. In 1999/00 prior to the MenC vaccine, group C incidence rates ranged from 2.8 to 7.1 per 100,000 in the health boards. This is a major success story and is a reflection of the very hard work undertaken by the immunisation teams, GPs and all those involved in the MenC campaign, which targeted 1.3 million people for vaccination.

This reduction in group C IMD compares well with the United Kingdom where the vaccine was introduced 11 months earlier, in November 1999. An overall reduction of 86.7% in the incidence of group C infection in the targeted age groups has been observed in the UK from 1999 to 2001 with a concomitant decrease in deaths from 67 in 1999 to 5 in 2001.[4]

The overall incidence of IMD has also been declining; total IMD notifications have declined by over 50% in 2001/02 when compared to the epidemiological year prior to the availability of the vaccine (1999/00). Mortality due to IMD has also declined from 26 deaths in 1999/00 to 10 deaths this epidemiological year (2001/02). Group C deaths have also declined from 11 in 1999/00 to two in 2001/02; again highlighting the positive impact the MenC vaccine has, not only in reducing morbidity due to IMD but also in reducing mortality.

Group B IMD now accounts for 89% of the IMD notifications in Ireland. At present there are no effective group B vaccines suitable for routine immunisation. The fact that a diverse range of phenotypes cause group B infection and that 40% of group B cases occur in children less than two years of age, a suitable vaccine will have to be broad enough to cover the predominant phenotypes that cause infection and be immunogenic in children less than two years of age. Vaccines that protect against group B disease are still in development but once a suitable vaccine is available then conjugate vaccines are likely to have a dramatic effect in reducing the burden of meningococcal disease within the next decade.

Dr Margaret Fitzgerald and Dr Darina O'Flanagan, NDSC
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3. Quadrivalent meningococcal vaccine required for pilgrims to Saudi Arabia.*Epi-Insight* 2002; **3**(1). Available at http://www.ndsc.ie/Publications/EPI-Insight/
4. Balmer P, Borrow R, Miller E. Impact of meningococcal C conjugate vaccine in the UK. *J Med Microbiol 2002*; **21**(9): 717-22.

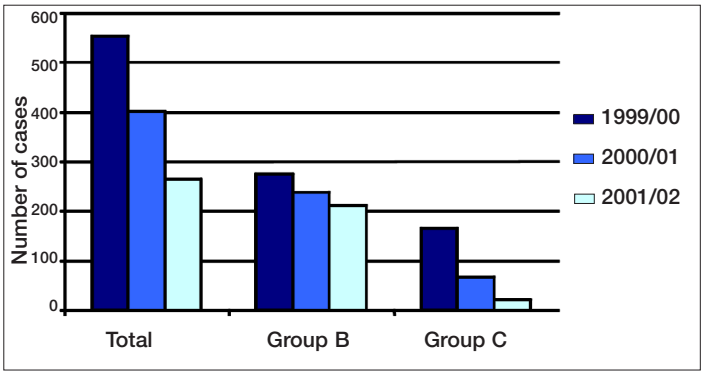

Figure 1. The number of total, group B and group C IMD notified in Ireland for the epidemiological years 1999/00, 200/01 and 2001/02.

Table 1. Classification of IMD cases notified in Ireland for the epidemiological year 2001/02

Serogroup	Definite	Presumed	Possible	Total (% Total)
B	194	16	1	211 (79.3%)
C	20	1	0	21 (7.9%)
W135	6	0	0	6 (2.3%)
Y	1	0	0	1 (0.4%)
Non-groupable	3	0	0	3 (1.1%)
No organism	0	3	21	24 (9.0%)
Total(% Total)	224(84.2%)	20 (7.5%)	22 (8.3%)	266

Table 2. Number and rate of total group B and group C IMD notified by health board in Ireland in the period July 2001 to June 2002

Health Board	Total		Group B		Group C	
	No. Cases	Rate*	No. Cases	Rate*	No. Cases	Rate*
ERHA	101	7.8	79	6.1	13	1.0
MHB	20	9.7	16	7.8	2	1.0
MWHB	23	7.3	18	5.7	1	0.3
NEHB	22	7.2	19	6.2	2	0.7
NWHB	14	6.6	10	4.7	1	0.5
SEHB	24	6.1	15	3.8	1	0.3
SHB	45	8.2	37	6.8	1	0.2
WHB	17	4.8	17	4.8	0	0.0
Total - ROI	**266**	**7.3**	**211**	**5.8**	**21**	**0.6**

* Crude incidence rate per 100,000 population

Table 3. Number of cases, age-specific incidence rates, number of deaths and case fatality rates of group B and group C disease notified in Ireland in the period July 2001 to June 2002

Age Group (years)	Group B				Group C			
	No. Cases	Rate*	No. Deaths	CFR**	No. Cases	Rate*	Deaths	CFR**
<1	57	116.7	4	7.0	3	6.1	0	0.0
1-4	64	31.8	3	4.7	6	3.0	0	0.0
5-9	33	11.7	0	0.0	0	0.0	0	0.0
10-14	19	5.8	0	0.0	2	0.6	0	0.0
15-19	18	5.3	0	0.0	2	0.6	0	0.0
20-24	4	1.4	0	0.0	3	1.0	1	33
25+	16	0.7	0	0.0	5	0.2	1	20
Total	**211**	**5.8**	**7**	**3.3**	**21**	**0.6**	**2**	**9.5**

* Crude incidence rate per 100,000 population
** Case Fatality Rate expressed as % (No. deaths/No. cases x100)

Launch of New European Guidelines for Control and Prevention of Travel-associated Legionnaires' Disease

On 1st July 2002, new European guidelines, under which the European surveillance scheme for travel-associated legionnaires will operate, were introduced,[1] as was a new identity for the scheme – EWGLINET. A working group from the surveillance scheme produced the guidelines after wide consultation with all collaborating countries, national and international tour operator bodies, and other professional groups.

The European Working Group for Legionella Infections (EWGLI) was formed in 1986 and established a European surveillance scheme for travel-associated Legionnaires' disease the following year. Since 1993, funding of the scheme has come from the European Commission DG SANCO, and its co-ordination has been managed by the PHLS Communicable Disease Surveillance Centre in London. The scheme now functions as a disease specific network and over 30 countries participate. The European surveillance scheme (EWGLINET) has been highly successful in identifying and controlling outbreaks of travel-associated Legionnaires' disease. It has, however, been recognised that the public health response to outbreaks has not been consistent across countries in the scheme. Therefore, the major change to the scheme's operational procedures is associated with ensuring a consistent, rapid and appropriate public health response in the countries of infection when notified of a cluster. Clusters (two or more cases associated with the same accommodation site and with onset of illness within two years of each other) occur in European holiday resorts on a regular basis. Over 70 were detected last year by EWGLINET.

Under very specific circumstances, and associated with the public health response in the relevant country of infection, the new procedures involve making certain information available to the public about hotels or other tourist accommodation sites associated with clusters. They are outlined as follows:

- When a cluster is reported, the collaborator in the country of infection is requested to organise an immediate risk assessment and measures to minimise any risk of legionella infection at the accommodation site. Within two weeks of the cluster alert, the collaborator is expected to report back to the co-ordinating centre in London that these actions were carried out. After a further four weeks a fuller report is expected from the collaborator and should specify the range of investigations taken, any results of sampling and confirmation that all control measures are satisfactory (or unsatisfactory) at the accommodation site.

- If either the two-week or six-week report is not returned within the specified time, it will not be known whether the hotel has been assessed as a possible health risk and this information will be made public on the EWGLI website. The name of the hotel will also be made public if the reports are returned, but state that control measures are inadequate. The reasons for the public disclosure will be clearly stated. The name of the hotel will be removed from the website when information that control measures are satisfactory has been received at the co-ordinating centre.

These procedures are being introduced in the EWGLINET countries that have so far agreed to work to the new guidelines. Through rapid response and exchange of information between public health specialists, the public is increasingly protected from acquiring travel-associated Legionnaires' disease. Collaborators should ensure that the hotel is fully aware of the cluster report and the steps that are being carried out to resolve the situation. Public health authorities in European holiday resorts are very aware of the potential risks to their tourist industry if action is not carried out swiftly when clusters are detected.

In the event of public disclosure, the information will objectively state that cases have occurred in people who stayed at the hotel and that no information (or an adverse report on the control measures taken), has been received. The report does not imply that the hotel is the source of infection. Members of the public and tour operators in all countries will be able to view this information and make their own decisions about booking hotels with unknown or unresolved health risks.

Implementation of the guidelines will be carefully monitored. It is anticipated that collaborating countries may require up to six months to introduce the new procedures during which time public health actions in their country should not be compromised. The EWGLI website (http://www.ewgli.org) is currently under development and from the end of July will contain further information about the surveillance scheme and the guidelines. The legal status of these guidelines produced by the EWGLI working group is still to be determined at the Community level.

Dr Carol Joseph, EWGLI

Reference

1. The European Working Group for Legionella Infections. European guidelines for the control and prevention of travel-associated Legionnaires' disease. London: EWGLI, 2002.

Salmonella Monthly Report (September 2002):

Strains are allocated to months based on the date of receipt of the isolate from the referring laboratory. These figures are provisional as work may not be finished on particular strains at the time of publication. One case of typhoid diagnosed at the end of August could not be confirmed as having been acquired outside Ireland. Full investigation was undertaken by the relevant health board, there were no other associated cases of illness and full control measures were put in place to minimise the risk of further spread. Data are provided courtesy of Prof Martin Cormican and Dr Geraldine Corbett-Feeney, INSRL.

Health Board	E	M	MW	NE	NW	SE	S	W	Total
S. Typhimurium	7	0	0	0	2	1	0	1	11
S. Enteritidis	10	3	2	2	2	2	0	4	25
S. Alachua	0	0	0	0	0	0	0	1	1
S. Brandenburg	0	0	1	0	0	0	0	0	1
S. Heidelberg	1	0	0	0	0	0	0	0	1
S. Newport	2	0	0	0	0	0	0	0	2
S. Ohio	0	0	0	0	1	0	0	0	1
S. Stanley	2	0	0	0	0	0	0	0	2
S. Thompson	1	0	0	0	0	0	0	0	1
S. Typhi *	0	0	1	0	0	0	0	0	1
Total	**23**	**3**	**4**	**2**	**5**	**3**	**0**	**6**	**46**

* notified via ERHA