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Contents

Increase in Listeriosis in Ireland, 2007

Introduction

Ireland is seeing an increase in listeriosis notifications in 2007 (figure 1). There have been 19 cases year-to-date, compared to 11, 12 and 7 total cases in 2004, 2005 and 2006 respectively. The increase appears to be primarily among pregnancy-related and neonatal cases (referred to collectively as pregnancy-associated cases) and represents a very significant increase in the proportion of cases that are pregnancy-associated over recent years (figure 2).

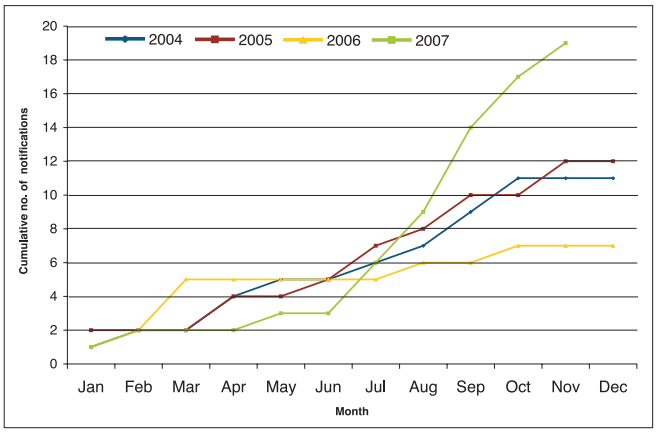

Figure 1. Cumulative number of listeriosis notifications, Ireland 2004-2006, and to 19 Nov 2007 (2007 data provisional)*

Since July, six cases of pregnancy-related listeriosis have been notified. Four had satisfactory birth outcomes but two mothers suffered late miscarriages. Three neonatal cases have been reported in 2007, acquired, presumably, transplacentally or during or after birth. This gives a total of nine pregnancy-associated cases in 2007. These cases are in addition to another ten adult cases reported so far this year.

Epidemiology

In the pregnancy-related cases, the mothers ranged in age from 20 to 36 years. The three neonatal cases ranged in age from 0-32 days.

Of particular note is that five of the pregnancy-related cases were non-Irish-born. Three were from Eastern Europe, one was from Asia, and one from Africa. In addition, one of the neonatal cases was born to a mother who had come from Eastern Europe. The remaining pregnancy-related case was Irish-born and the remaining neonatal cases were born to Irish-born mothers.

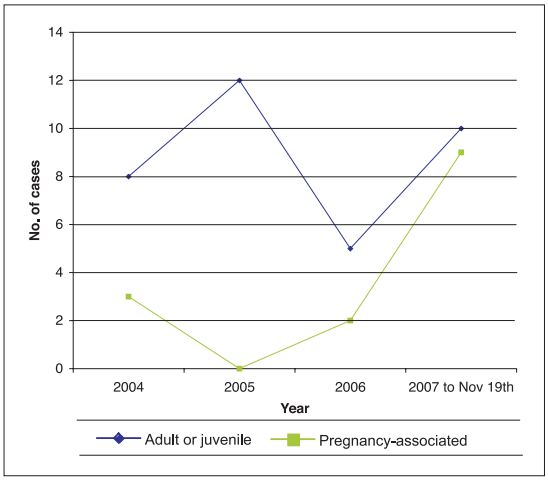

Figure 2. Number of cases of listeriosis notified by year and case type, 2004-2006 and to 19 Nov 2007 (2007 data provisional)*

Laboratory diagnosis

HPSC has requested that all isolates be sent to University College Hospital, Galway for definitive typing. To date, only two of the isolates (from unrelated patients) which have undergone molecular examination appear, on preliminary examination, to be related. All other isolates are quite distinct indicating that, to date, there is no evidence of a single source to account for this upsurge.

Transmission

Infection occurs mainly through the ingestion of contaminated food. Foetal infection can occur if a woman eats contaminated food during pregnancy. The foods that pose greatest risk and should be avoided by pregnant women include all soft cheeses, pâtes, smoked fish and unpasteurised milk.

Prevention

The fact that many of the affected cases involve women from countries other than Ireland and for whom English is not their first language raises a question over the knowledge among certain subgroups of pregnant women in Ireland about the dangers of contracting *Listeria* from food sources. It is possible that these women were exposed in their countries of origin or by eating food sent to them from their countries of origin. Alternatively, they could have been exposed to high-risk foods here in Ireland.

It is important that women who are pregnant or considering becoming pregnant are given information about avoiding high-risk foods and that this information is provided in appropriate languages for women for whom English is not a first language. ***safe*food** is currently developing an information leaflet on listeriosis in various languages.

Further information on how people can protect themselves against listeriosis can be found on the Health Protection Surveillance Centre website at http://www.ndsc.ie/hpsc/A-Z/Gastroenteric/Listeriosis/Factsheet/ and on the ***safe*food** website at www.safefood.eu/article.asp?article=1439.

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Epidemiology of Tuberculosis in Ireland, 2005

Introduction

WHO has estimated that globally, there were 8.8 million new cases of tuberculosis (TB) and 1.6 million TB deaths in 2005.[1] The Global Plan to Stop TB 2006-2015 was launched in January 2006 and plans to reduce the global prevalence of, and deaths due to TB by 50% in 2015 relative to 1990. In addition, it proposes to eliminate TB as a public health problem (<1 case per million population) by 2050.[2]

A review of the epidemiology of TB cases notified in Ireland during 2005 is presented. Provisional data for 2006 are also presented.

Methods

An enhanced TB notification form was completed by public health doctors for each case of TB notified in 2005. These forms summarise all available clinical, microbiological, histological and epidemiological data. Each HSE area provided finalised 2005 data with outcome information to HPSC in early to mid 2007. Data were validated with each area and national data were collated. Provisional 2006 data were obtained from each area in August 2007.

The case definitions used were as recommended in the report of the National TB Working Party, 1996.[3]

Results

Cases and rates

In 2005, 450 cases of TB were notified to HPSC, a national crude incidence rate of 10.6/100,000 population. The number of annual TB notifications together with crude rates and 3-year moving averages from 1991 to 2005 are provided in table 1. A summary of the epidemiology of TB cases from 2001 to 2005 is shown in table 2.

Table 1: Notified cases of TB in Ireland 1991-2005 with crude rates per 100,000 population and 3-year moving averages 1992-2004

Year	Number of cases	Crude rate per 100,000 population	3-year Moving average
1991	640	18.2	
1992	604	17.1	612
1993	598	17.0	581
1994	524	14.5	526
1995	458	12.6	469
1996	434	12.0	436
1997	416	11.5	423
1998	424	11.7	433
1999	469	12.9	439
2000	395	10.1	410
2001	381	9.7	391
2002	408	10.4	401
2003	407	10.4	414
2004	432	10.2	430
2005	450	10.6	

Age-standardised incidence rates by HSE area

Age-standardised incidence rates (ASIR) and number of cases for each HSE area are presented in figure 1. The highest age-standardised TB incidence rates were seen in HSE MW at 14.6/100,000 population, followed by HSE E (12.7) and HSE S (12.2). HSE NE reported the lowest ASIR at 3.4/100,000 population which was significantly lower than the national incidence rate (10.6/100,000 population).

Table 2: Summary of epidemiology of TB in Ireland, 2000-2005

	2000	2001	2002	2003	2004	2005
Total number of cases	395	381	408	407	432	450
Notification rate per 100,000 population	10.1	9.7	10.4	10.4	10.2	10.6
Foreign-born cases	44	63	123	89	129	152
% Culture positive patients	58.0	58.8	61.0	64.4	64.6	62.9
M. tuberculosis	222	204	234	250	268	275
M. bovis	2	7	5	5	5	4
M. africanum	3	1	1	1	0	1
% Smear positive pulmonary cases	47.2	44.4	38.4	48.8	43.9	44.2
Multi-drug resistant cases	2	2	0	1	2	2
Resistance to isoniazid*	6	9	9	12	15	13
Extensively-drug resistant cases	0	0	0	0	0	1
Deaths attributed to TB	5	5	5	6	5	10

** Includes all cases where there is isoniazid resistance.*

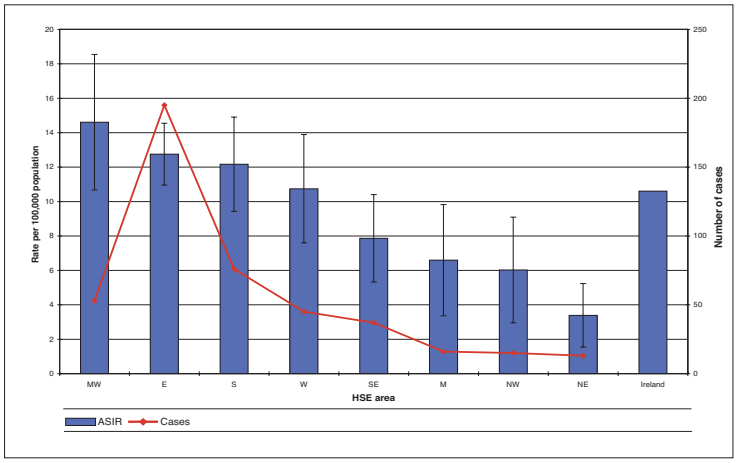

Figure 1: Number of cases notified and age standardised TB incidence rates per 100,000 population by HSE area with 95% confidence intervals, 2005

Age and sex

There were 269 (59.8%) cases of TB notified in males in 2005 and 181 (40.2%) in females, giving a male to female ratio of 1.5:1.

In 2005, the mean age of cases was 42.5 years (range 1 year to 96 years). Age was reported for all cases. Rates in males were higher than in females in all age groups. Figure 2 shows the age-specific rates of TB in Ireland from 2000 to 2005.

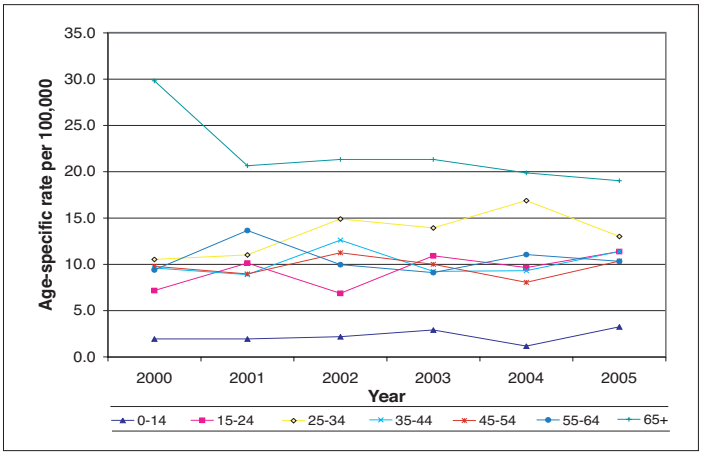

Figure 2: Age-specific rates of TB by year, 2000-2005

Geographic origin

Of the 450 TB cases notified in 2005, 297 (66.0%) were born in Ireland, 152 (33.8%) were born outside Ireland and for the remaining one case, the country of birth was unknown. The majority (84.9%) of cases born outside Ireland were aged between

15 and 44 years with a median age of 29 years. The median age of those born in Ireland was 50 years with 40.7% of the cases aged greater than 55 years. The highest age-specific rate in the Irish-born population was in those aged 65 years and over while the highest rate in the foreign-born population was in those aged between 15-34 years. Figure 3 shows the cases by age group

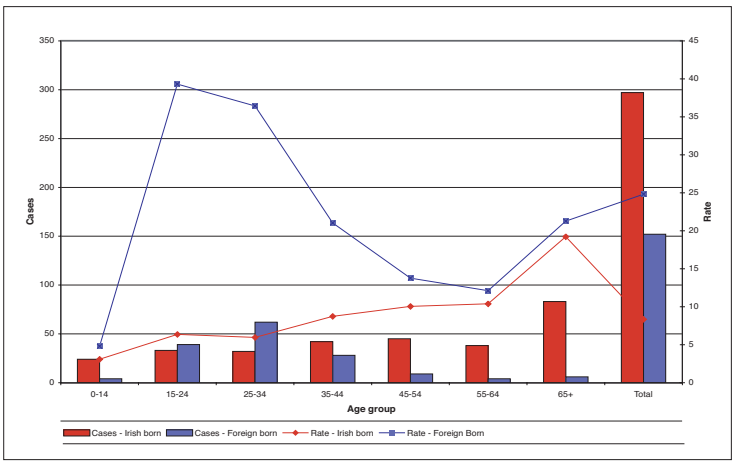

Figure 3: TB cases by age group (years) and age-specific rates by geographic origin, 2005

(years) and age-specific rates by geographic origin in 2005.

Site of disease

Of the 450 cases notified in 2005, 278 (61.8%) were pulmonary, 130 (28.9%) were extrapulmonary and 41 (9.1%) were pulmonary and extrapulmonary. For one case (0.2%), the site was unspecified.

Pulmonary TB
There were 319 cases (70.9%) reported in 2005 with a pulmonary disease component. Of these, 224 (70.2%) were culture positive. One hundred and forty-one cases (44.2%) were smear positive.

Extrapulmonary TB
One hundred and seventy one (38.0%) cases reported in 2005 had an extrapulmonary disease component. The most frequent sites of extrapulmonary disease reported were extra-thoracic lymph nodes (29.2%) and pleura (20.5%).

TB meningitis
There were nine cases of TB meningitis reported in 2005, an incidence rate of 0.2/100,000 population (2/million population). One case was culture confirmed.

Bacteriological results

Of the 450 cases notified in 2005, 283 (62.9%) were culture positive. Of the 283 culture-confirmed cases, 275 (97.2%) were *M. tuberculosis*, four (1.4%) were *M. bovis* and one (0.4%) was *M. africanum*.

Of the 275 *M. tuberculosis* isolates, resistance was documented in 13 cases (2.9% of total cases), including two cases of multi-drug resistant TB (MDR-TB). One case of extensively-drug resistant TB (XDR-TB) was notified during 2005. This is the first XDR-TB case notified in Ireland. Mono-resistance to isoniazid was recorded in nine cases. One further case was resistant to both isoniazid and streptomycin. Nine of the 13 (69.2%) drug resistant cases, including one of the MDR-TB cases, were born outside Ireland.

Treatment outcome

Outcome was recorded for 392 (87.1%) of the 450 cases notified in 2005. Of the 392 cases, 304 completed treatment, 32 were recorded as being lost to follow up, 37 died, treatment was interrupted in eight cases, 10 cases were still on treatment at time of reporting and one case defaulted on treatment. Of the 37 deaths reported, 10 (2.2% of total cases) were attributed to TB. Details on treatment outcome for all cases and for smear positive cases are shown in table 3.

Table 3: Treatment outcome for all cases and smear positive cases, 2005

Treatment outcome	Total cases		Smear positive cases	
	Number	%	Number	%
Completed	304	67.6	98	69.5
Lost to follow up	32	7.1	12	8.5
Died (attributed to TB)	10	2.2	2	1.4
Died (not attributed to TB)	27	6.0	10	7.1
Still on treatment	10	2.2	6	4.3
Interrupted (>2mths)	8	1.8	1	0.7
Defaulted	1	0.2	0	0.0
Unknown	58	12.9	12	8.5
Total	**450**	**100**	**141**	**100**

HIV Status

Of the 450 cases, 11 were reported as being HIV positive. However, information on HIV status was not provided or was unknown for 422 (93.8%) of the cases notified in 2005.

Provisional 2006 data

There were 458 cases of TB provisionally notified in 2006. It is important to note that these data are provisional and **may change significantly following validation**.

Of the 458 cases provisionally notified in 2006,

- Pulmonary TB was diagnosed in 296 cases (64.6%), extrapulmonary TB in 119 cases (26.0%) and pulmonary and extrapulmonary TB in 35 cases (7.6%).
- Of the 331 cases with a pulmonary disease component, 163 (49.2%) were culture positive and 131 (39.6%) were smear positive.
- There were six cases of TB meningitis provisionally notified, corresponding to a rate of 0.1/100,000 population (1/million population).
- There were 288 cases born in Ireland, 151 were foreign-born and country of birth was not reported for 19 cases.
- There were 273 cases (59.6%) notified in males, 183 cases (40.0%) in females and the mean age of cases was 42.7 years (range 0 to 93 years).
- Resistance was reported in 12 cases, four were mono-resistant to isoniazid and three were MDR-TB.

A comprehensive report on 2005 data and a provisional report on 2006 data can be found at http://www.ndsc.ie/ hpsc/A-Z/VaccinePreventable/TuberculosisTB/Publications/AnnualReportsontheEpidemologyofTBinIreland/.

Continued page 4

Discussion

In 2005, 450 cases of TB were notified to HPSC, a national crude incidence rate of 10.6/100,000 population. This is slightly higher than the rates reported between 2000 and 2004 but is lower than the rates reported between 1991 and 1999. The overall notification rate in countries of the EU which reported to EuroTB was 18.7/100,000 in 2005.[4]

A regional variation was noted with the ASIR ranging from 3.4/100,000 population in HSE NE to 14.6/100,000 population in HSE MW.

The highest age-specific rate in 2005 occurred among those aged 65 years and over (19.0/100,000 population). This was similar to the rate observed in this age group between 2001-2004. Between 2000 and 2004, the age-specific rate among the 25-34 year age group increased from 10.5 to 19.8 per 100,000 population but decreased to 13.0 during 2005.

During 2005, 33.8% of TB cases notified were born outside Ireland. This compares to 30% in 2004, 21.9% in 2003, 30.1% in 2002 and 16.5% in 2001. In 2005, among countries in the EU and Western Europe who reported data to the EuroTB network, 20% of notifications were in foreign-born patients. In the United Kingdom, France, Germany and Belgium, where crude incidence rates are similar to those reported in Ireland, the percentage of cases of foreign origin in 2005 ranged from 43 to 64%.[4] There was a notable difference in age between those born in Ireland and those born outside Ireland, with a median age of 50 years and 29 years respectively.

There were nine cases of TB meningitis in 2005, a rate of 0.2/100,000 population. Between 1998 and 2005, a total of 50 cases of TB meningitis have been reported with four of the cases reported among 0-4 year olds.

There were 13 drug resistant cases notified in 2005, including two cases of MDR-TB. One case of XDR-TB was notified during 2005. This is the first XDR-TB case notified in Ireland. Multi-drug resistant cases and cases resistant to isoniazid represented 0.4% (2 cases) and 2.8% (13 cases) of total cases respectively. This compares to 0.5% and 3.5% respectively in 2004. In 2005, combined multi-drug resistance and mean combined isoniazid resistance were 18.3% and 30.5% respectively in the Baltic States and 2% and 9% respectively in the 18 other countries in the EU and Western Europe.[4]

Drug resistance is an issue that needs to be kept under close surveillance especially with the recent emergence of XDR-TB. In September 2006, WHO called on countries to strengthen and implement measures to prevent the global spread of these virulent drug resistant strains of TB.[5] The Global Plan To Stop TB, 2006 - 2015 (WHO) has also highlighted the need for countries to address TB/HIV issues.[2]

In recent years, the quality of the data, and in particular data on treatment outcome, has improved greatly. The importance of good surveillance data cannot be underestimated as it will help guide where resources should be directed in order to ensure effective control of TB in Ireland and to reach the global elimination target by 2050.

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National Hepatitis C Database Report

The Health Protection Surveillance Centre (HPSC) has published the National Hepatitis C Database baseline report on behalf of the Consultative Council on Hepatitis C. The National Hepatitis C Database was established to gather important information, on an ongoing basis, on a group of people with hepatitis C infection acquired through blood or blood products in Ireland. These include women infected through anti-D immunoglobulin, recipients of blood transfusion, people with haemophilia and other blood clotting disorders and people who received treatment for renal disease. The fact that most of these people have a known date and source of infection and that they are being regularly followed up through a small number of specialist services allows a unique opportunity to carry out internationally significant research into both the natural history of hepatitis C and its treatment.

The database was developed by HPSC in association with the eight designated hepatology units. Information is collected only on eligible people who consent to participate in the database and on eligible patients who have died. This report and subsequent reports will provide an invaluable resource to researchers seeking to understand the nature of the hepatitis C virus, its effects on the liver and other organs and the impact of treatment on this disease. This database will not only facilitate research, it will also inform clinical practice and enable more effective service planning for the emerging needs of this group. The baseline annual report can be found at http://www.ndsc.ie/hpsc/A-Z/HepatitisHIVAIDSandSTIs/HepatitisC/HepatitisCDatabase/BaselineReport/.