Hepatitis A in south-eastern Sydney 1997-1999: continuing concerns for gay men and an outbreak among illicit drug users

Valerie C Delpech,[1] Sarah V Thackway,[2] Lorraine Young,[1] Giulietta Pontivivo,[1] Elizabeth Smedley,[1] Keira Morgan,[1] Mark J Ferson[1]

Abstract

The incidence of hepatitis A virus (HAV) in south-eastern Sydney is one of the highest in Australia with large outbreaks previously associated with male-to-male sexual contact. We report HAV notification trends over the period 1 June 1997 to 31 May 1999 for this location. In the first twelve-month period, 233 cases were notified (crude rate 30.5/100,000 per year) with a peak incidence of 110/100,000 in males aged 20-39 years. Over 60% of male cases reported male-to-male sexual contact. The notification rate (crude rate 15.5/100,000) and proportion of males (61%) was considerably lower in the following twelve month period with 118 cases notified. Less than a third of males reported male-to-male sexual contact. An outbreak (n = 45) of HAV among illicit drug users and their contacts was detected in December 1998. The transmission of HAV remains endemic in south-eastern Sydney. Vaccination among high-risk groups remains an important preventative strategy. *Commun Dis Intell* 2000;24:203-206

Keywords: hepatitis A virus, illicit drug use, male-to-male sexual contact, surveillance

Introduction

South-eastern Sydney has one of the highest incidences of hepatitis A virus (HAV) infection in Australia.[1] Large HAV outbreaks associated with male-to-male sexual contact have occurred in inner and eastern suburbs of Sydney. Peak notification rates of 520/100,000/year in 20-29 year old males and 405/100,000/year in 30-34 year males were recorded during two recent outbreaks in 1991-2 and 1995-6 respectively.[1,2]

Cases of HAV among injecting drug users (IDUs) have also been reported in south-eastern Sydney.[1,3] In the 1994-5 outbreak, one quarter of all HAV cases notified to the South East Sydney Public Health Unit (SESPHU) reported a recent history of injecting drug use.[3] Outbreaks of HAV among IDUs have also been documented in a number of countries including the United States,[4-8] Canada,[9] Norway,[10,11] Finland[12] and Sweden.[13] More recently, Queensland health authorities described several linked outbreaks of HAV among illicit drug users.[14] Of the 800 cases notified in Queensland during 1997, a quarter was associated with drug use.

In New South Wales, hepatitis A is notified to the local public health unit by doctors on clinical suspicion and by laboratories on detection of anti-HAV IgM. Case investigation and public health follow up are conducted by public health and clinical staff on all confirmed and suspected cases. A confirmed case of hepatitis A is defined as a person with a laboratory report of anti-HAV IgM in serum with symptoms of acute hepatitis A or epidemiologically linked to a case confirmed serologically. Details of confirmed cases are recorded onto the New South Wales Notifiable Diseases Database (NDD). Additional information collected through case investigation, including potential source/s of infection, risk factors and exposure, is recorded onto a discrete SESPHU hepatitis database.

In this article, we review notifications of HAV in south-eastern Sydney over a two year period (June 1997 to May 1999) and report on an outbreak among illicit drug users detected in December 1998.

Methods

Methods of data collection and the information contained in the SESPHU hepatitis database have been described previously.[1] Cases of HAV infection notified to the SESPHU with an onset date between 1 June 1997 and 31 May 1999 were extracted from NDD and the SESPHU hepatitis database. Data analysis was conducted using Epi Info 6. Australian Bureau of Statistics census data were used to estimate populations for south-eastern Sydney. Illicit drug use was defined as the use of illicit drugs (including injecting drugs) within the previous two months.

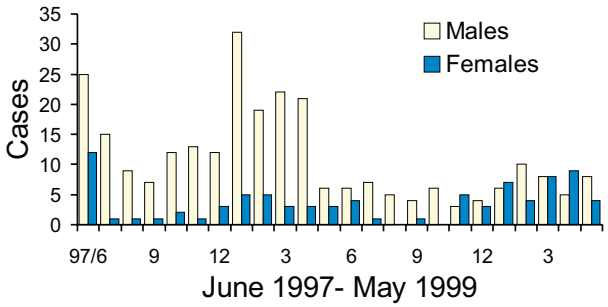
Results

Over the two-year period, 354 cases were notified to the SESPHU (Figure 1). Distinct patterns of notifications were noted involving two twelve-month periods (June 1997 to May 1998 and June 1998 to May 1999). Each period will be discussed separately.

1. South East Sydney Public Health Unit, Randwick, New South Wales, Australia 2031.
2. New South Wales Health Department, North Sydney, New South Wales, Australia 2059.

Corresponding author (present address): Valerie Delpech, New South Wales Health Department, Locked Mail Bag 961, North Sydney, New South Wales, Australia 2059. Fax: +61 2 9391 9189. E-mail: VDELP@doh.health.nsw.gov.au

Figure 1. Hepatitis A notifications, South East Sydney Health Service Area, June 1997 to May 1999



June 1997 - May 1998

Between June 1997 and May 1998, 236 cases of HAV were reported (crude rate 30.9/100,000 per year) with incidence peaks in the months of June 1997 (n = 37) and January 1998 (n = 37) (Table 1). Twenty-seven (12%) reported contact with a person who had a clinical history and/or a diagnosis of HAV and 12% had a history of recent overseas travel.

Adult males accounted for 82% of cases, representing a rate of 50.8/100,000 (compared to 11.2/100,000 in women). Male cases were aged between 12-81 years (mean 32 years). However, most (78.2%) males were aged between 20-39 years with an age-specific rate of 110.1/100,000. Male-to-male sexual contact was reported in 61% of male cases with 83% residing in inner and eastern Sydney. Only four (2%) cases reported injecting drug use.

June 1998 - May 1999

During the 1998-99 period, the notification rate was considerably lower than the previous twelve months with 118 cases notified (crude rate 15.5/100,000) (Table 2). Cases ranged between 1-76 years in age (mean 33 years) and resided predominantly in inner and eastern Sydney (71.2%). Males accounted for 61% (rate 19.0/100,000) and less than a third (29%) reported male-to-male sexual contact.

An increase of HAV cases among the illicit drug users and their contacts was detected in December 1998. Over the ensuing six months (1 December to 31 May 1999), 45 of the 76 (59%) HAV notifications reported illicit drug use or had contact with an illicit drug user. A small but continuing number of cases was reported each week with no peak in notifications.

Demographic and risk factor information on cases associated with the outbreak is detailed in Table 3. The majority (69%) were residents of eastern Sydney and, in particular, the Kings Cross area (Area 2, Figure 2). The male: female ratio was 1: 1.02 and the mean age was 28 years (range 7-72).

Thirty-one (69%) of the 45 cases used illicit drugs: 12 (27%) reported smoking marijuana and 29 (64%) reported injecting drug use. Nine cases (20%) reported sex work, and four males (13% of all male cases) reported male-to-male sexual contact. Two of the cases had recently been in or visited a detention centre. No case had travelled overseas in the two months prior to illness.

Table 1. Hepatitis A cases and rates,[1] south-eastern Sydney residents, June 1997 to May 1998, by age and sex

	Males		Females		Total	
Age-group	Number	Rate	Number	Rate	Number	Rate
<5	0	0.0	1	4.8	1	2.3
5-19	11	16.9	6	9.6	17	13.3
20-39	151	110.1	28	21.2	179	66.5
40-59	30	30.9	7	7.4	37	19.3
60+	1	1.7	1	1.4	2	1.5
Total	193	50.8	43	11.2	236	30.9

1. Rates per 100,000 persons

Table 2. Hepatitis A cases and rates,[1] south-eastern Sydney residents, June 1998 to May 1999, by age and sex

	Males		Females		Total	
Age-group	Number	Rate	Number	Rate	Number	Rate
<5	0	0.0	2	9.6	2	4.7
5-19	1	1.5	11	17.7	12	9.4
20-39	50	36.5	24	18.1	74	27.5
40-59	17	17.5	6	6.4	23	12.0
60+	4	6.9	3	4.1	7	5.3
Total	72	19.0	46	12.0	118	15.5

1. Rates per 100,000 persons

Table 3. Outbreak of Hepatitis A among illicit drug users and their contacts, south-eastern Sydney, December 1998 to May 1999, n = 45

Demographic/ Risk Factor	Number of cases	%[1]
Males[2]	23	51
Resident of eastern Sydney	31	69
Illicit drug use	31	69
Injecting drug use	29	64
Prison	2	4
Known contact with a person with HAV	3	7
Sex work	9	20
History of travel	0	0
Eating at community food vans	7	16
Male to male sexual contact	4	13

1. % of all male cases
2. Age: mean = 28y, median = 27y

Discussion

Hepatitis A remains endemic in south-eastern Sydney, with gay men continuing to be at particularly high risk of contracting the illness. More recently, HAV infection rates have increased among illicit drug users and their contacts. The outbreak was first identified in late 1998 and was predominately reported within the Kings Cross area, containing one of Australia's largest populations of IDUs. Unlike the 1994-1995 epidemic, there was no apparent increase of HAV among persons reporting risk factors other than illicit drug use over the same period and only four cases reported male-to-male sexual contact.

Epidemics of HAV among illicit drug users have also recently been noted in northern New South Wales (personal communication Marianne Trent, Infectious Diseases Clinical Nurse Consultant, Northern Rivers Institute of Health and Research), Queensland[14] and other Australian capital cities.[15] While HAV outbreaks among illicit drug users have been reported nationally and internationally,[1-15] the route of transmission in most cases remains unclear and is probably multifactorial.[16-19]

Possible transmission routes of HAV infection associated with drug use include injection or ingestion of contaminated drugs[4,6,18] and direct or indirect person-to-person contact, such as behaviours related to sharing needles, sexual contact or poor personal hygiene.[1,5] Various injected drugs have been associated with HAV outbreaks, including heroin, amphetamines, and cocaine.[6] However, HAV has purported to have been transmitted through non-injecting drug use, including smoking marijuana.[6,8] While there have been reports of parenteral transmission of HAV,[19] the relatively short viraemic phase of HAV infection means that parenteral transmission of HAV is unlikely to have been a common mechanism in cases in injecting drug users.[6]

Further epidemiological investigation of the south-eastern Sydney outbreak is being undertaken in an attempt to identify risk factors for HAV among illicit drug users and ascertain potential sources of transmission that may be amenable to preventative measures. Vaccination against hepatitis A among high-risk groups remains an important preventative strategy.

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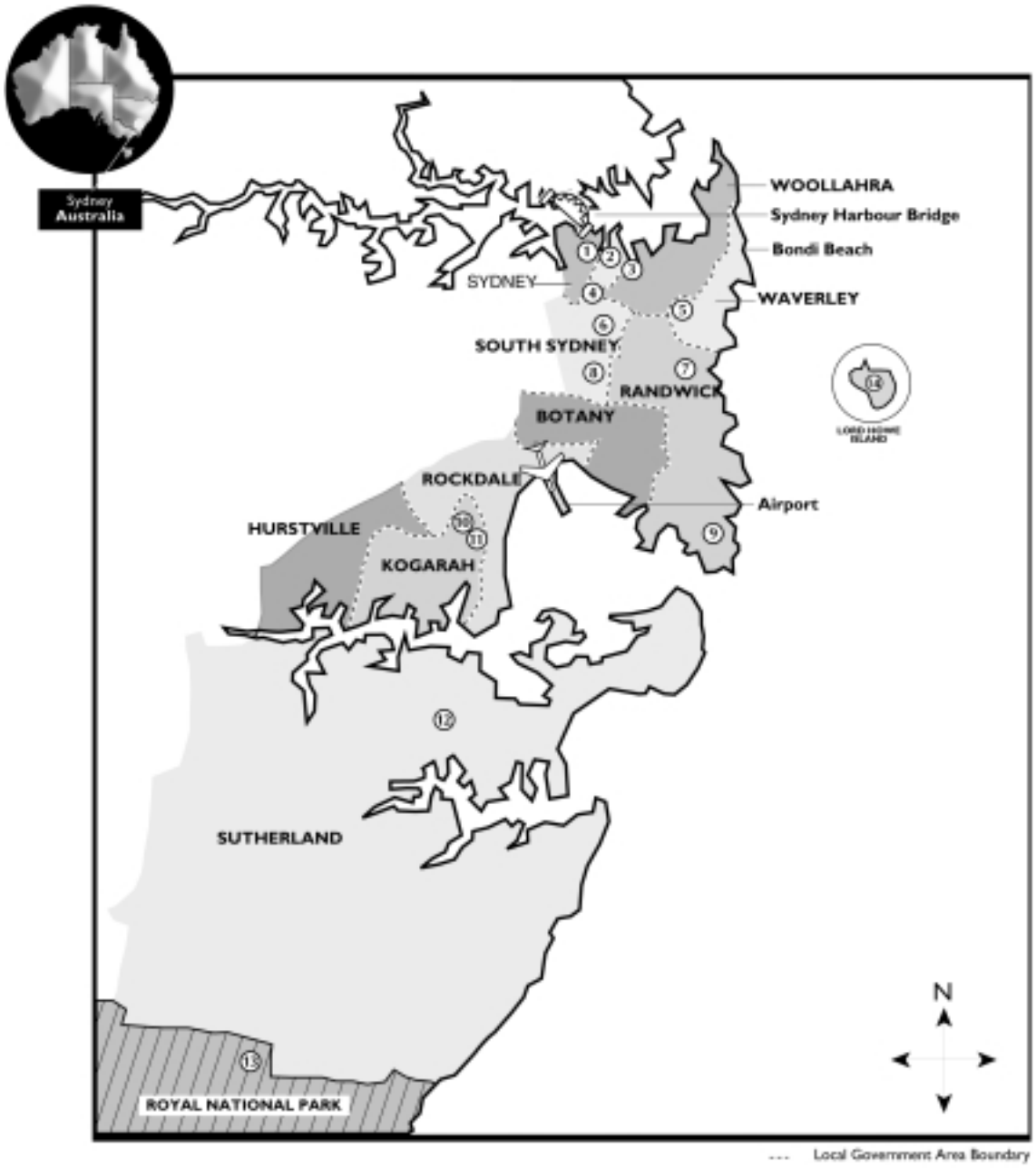
Figure 2. South East Sydney Health Service Area



LEGEND

1. Sydney & Sydney Eye Hospital
2. Kirketon Road Centre
3. St Vincent's Hospital
4. Albion Street Centre
5. War Memorial Hospital
6. Langton Centre
7. Prince of Wales Hospital, Sydney Children's Hospital & Royal Hospital for Women
8. Royal South Sydney Community Health Complex
9. Prince Henry Hospital
10. St George Hospital
11. Calvary Hospital
12. Sutherland Hospital
13. Garrawarra Centre for Aged Care
14. Gower Wilson Memorial Hospital