The syphilis trends observed, the spread to other geographic locations, and the high rate of co-infections with HIV in particular, are worrying. The increasing incidence of syphilis may indicate changes in sexual behaviour, especially among MSM and people who are aware of their HIV infection. Furthermore, the presence of syphilis may lead to future increases in HIV incidence, by facilitating HIV transmission and susceptibility [11].

In addition to consistent surveillance, integrated HIV-STI prevention programmes have to be reinforced. Finally, no effort should be spared to diagnose and treat cases of syphilis as early as possible.

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ORIGINAL ARTICLES

Surveillance report

SYPHILIS SURVEILLANCE IN FRANCE, 2000-2003

E Couturier[1], A Michel[1], M Janier[2,4], N Dupin[3,4], C Semaille[1] and the syphilis surveillance network

This article describes syphilis trends, characteristics of patients from 2000 to 2003 in France and trends of the benzylpenicillin benzathine 2.4 million UI sales from 2001 to 2003. The ongoing surveillance system for syphilis case reporting since 2001 has been set up in volunteer settings, mostly public settings where STI treatment is offered. Clinical case reporting is complemented by sexual behavioural data based on a self-administered questionnaire.

From 2000 to 2003, 1089 syphilis cases were reported in France, increasing from 37 cases in 2000 to 428 in 2003. Overall, 96% of syphilis cases were in men with a mean age of 36.5 years and 70% of whom were born in France. The proportion of syphilis cases with HIV co-infection decreased over time from 60% in 2000 to 33% in 2003. The most affected area by the syphilis epidemic is the Ile-de-France region, mainly the city of Paris. The greatest proportion of syphilis cases diagnosed in men who have sex with men (MSM) were in the Ile-de-France region, where they made up 87% of cases, compared with 75% in other regions. Among the patients who completed the self-administered questionnaire on sexual behaviour, 83% reported having casual sex partners in the 3 months prior to their syphilis diagnosis.

Trends in the sales of benzylpenicillin benzathine 2.4 million UI in private pharmacies are similar to those observed in the surveillance system, and increased between 2001 and 2003.

In conclusion, syphilis transmission is still ongoing in France in 2003 and the role of unprotected oral sex in the transmission of syphilis should be emphasised.

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Introduction

In France, treatment of sexually transmitted infections (STI) is mainly provided by private general practitioners and gynaecologists. Less than 20% are diagnosed in STI clinics, which are publicly funded with free diagnosis and treatment [1]. Unlike some other countries, partner notification of infected patients is not implemented as a routine public health intervention to control STIs. Two tests have to

be carried out for serology testing: a nontreponemal test (Venereal Disease Research Laboratory, VDRL) and a treponemal test (T. pallidum haemagglutination assay, TPHA). Benzylpenicillin benzathine 2.4 million UI in a single dose is the recommended treatment for infectious syphilis.

Required by law since 1942, mandatory notification of syphilis was abandoned in 2000 because syphilis was a rare disease and poorly reported by private physicians. In 1978, 80% of syphilis cases were diagnosed by private physicians, but more than 90% of notifications came from STI clinics [2].

No national syphilis trends are available after 1990, but data from Paris STI clinics revealed that syphilis cases declined evenly from 1980 [3]. By the late 1990s, less than 40 cases by year were reported (unpublished data, Direction de l'Action Sociale, de l'Enfance et de la Santé, Paris).

In November 2000, an unusual number of infectious syphilis cases were diagnosed in one Parisian STI clinic in a short time period. The resurgence of infectious syphilis was confirmed and a surveillance system was set up in 2001 [4].

In this article, we describe syphilis trends, characteristics of patients (2000-2003) and trends of the benzylpenicillin benzathine 2.4 million UI sales (2001-2003) in France.

Methods

Since 2001, the ongoing surveillance system for syphilis case reporting has been set up in volunteer settings, mainly public as STI clinics, hospital outpatient consultations (dermatology, infectious diseases) and in an existing Parisian network of private practitioners.

A standard infectious syphilis case definition includes primary, secondary and early latent syphilis (≤ 1 year of infection) (4). After patient's informed consent, data collected by the provider at initial examination includes: age, gender, district code of residence, country of birth, sexual orientation, syphilis stage, dark field and serologic test results (TPHA, VDRL, HIV), and, for HIV positive patient, if there is an ongoing antiretroviral treatment.

Behavioral data complement case-reporting. A short anonymous self-administered questionnaire is offered to the patient focusing on sexual behaviors and preventive attitudes (number of sexual partners, condom use, sexual practices).

From 2001 to 2003, monthly sales of benzylpenicillin benzathine 2.4 million UI were obtained from a centralised wholesaler supplying all French private pharmacies. Data are available by French main cities and by region. France is divided into 22 administrative regions, the city of Paris belongs to the Ile-de-France region.

Results

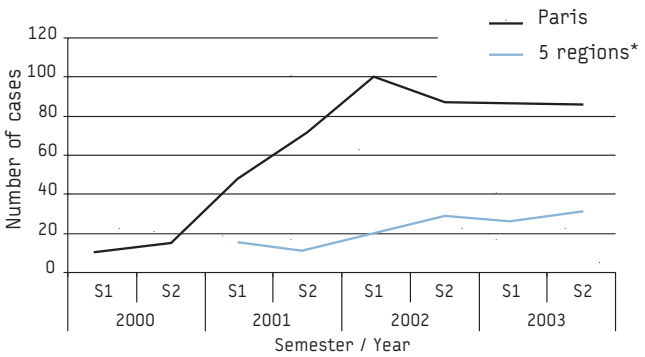
From 2000 to 2003, 1089 syphilis cases were reported, 37 cases in 2000, 207 in 2001, 417 in 2002 and 428 in 2003. Between 2000 and 2003, each year, more than half of the cases were diagnosed in the Ile-de-France region but the proportion decreased from 81% to 64% ($p < 10^{-3}$). Each year, more than 96% of the cases of the Ile-de-France region were diagnosed in Paris.

The number of participating settings has increased over time, from 10 in 2000, 29 in 2001, 42 in 2002 to 49 in 2003. In the Ile-de-France region, the number of settings was quite stable over time and the increase in participation was mainly in the other regions.

We further analysed syphilis trends using data from settings with continuous participation (2001-2003) for 5 regions (Bourgogne, Languedoc, Nord, Pays-de-la-Loire, Provence-Alpes-Côte d'Azur) and for Paris (2000-2003) [FIGURE 1]. In Paris and in the 5 regions, the number of syphilis cases doubled from 2001 to 2002. In 2003, it decreased (- 15%) in Paris and increased (+ 15%) in the 5 regions.

FIGURE 1

Syphilis cases by semester, France, 2000-2003



* Bourgogne, Languedoc, Nord, Pays-de-la-Loire, Provence-Alpes-Côte d'Azur

Among the 1 089 cases, 25.8% (281) had primary syphilis, 42.4% (462) secondary syphilis and 31.8% (346) an early latent syphilis. Between 2000 and 2002, the proportion of early latent syphilis increased (13.5%, 20.3%, 36.5%, p<10-3) and was stable in 2003 (34.3%). The increasing trend was significant only in the Ile-de-France region.

Syphilis cases were mostly men (96%), the median age was 36; range 15-80, and more than 70% were born in France. Over time, the proportions of cases aged over 34 years were stable (40.5%, 47.8%, 43.2%, 43.2%).

Each year, more than 80% of the cases were men having sex with men (MSM). Overall, 49% of syphilis cases had a concomitant HIV infection. The proportion of syphilis cases with HIV infection decreased over time, from 60% in 2000 to 33% in 2003 (c2 for trend, p<10-3). Among them, 86% were aware of their HIV(+) status (stable proportions over time) and 71% were receiving antiretroviral treatment at the time of syphilis diagnosis (stable proportions over time). MSM were more frequently HIV infected than heterosexuals, men or women [TABLE].

TABLE

Syphilis cases by HIV status and sexual orientation, France, 2000-2003

	Homo/ Bisexual	Heterosexual Male	Heterosexual Female	Total
HIV status	N (%)	N (%)	N (%)	N (%)
positive	482 (53.4)	17 (12.7)	3 (7.0)	502 (46.5)
negative	389 (43.1)	107 (79.9)	33 (76.7)	529 (49.0)
not documented[1]	32 (3.6)	10 (7.5)	7 (16.3)	49 (4.5)
Total	903 (100)	134 (100)	43 (100)	1080[2] (100)

[1] Not documented at time of syphilis diagnosis
[2] Gender not documented (n=1), sexual orientation not documented (n=8)

In the Ile-de-France region, 87% of syphilis cases were diagnosed among MSM compared to 75% among those of the other regions ($p<10^{-3}$). No differences according to age or proportions of HIV infected were seen between cases in the Ile-de-France region or in the other regions (36.2 years vs 37.2 years; 50.3% vs 44.7%). Among MSM, the proportion of syphilis cases co-infected with HIV decreased, from 72% in 2000 to 47% in 2003 (c^2 for trend, $p<10^{-3}$). This decreasing trend was significant in the Ile-de-France region but not in the other regions.

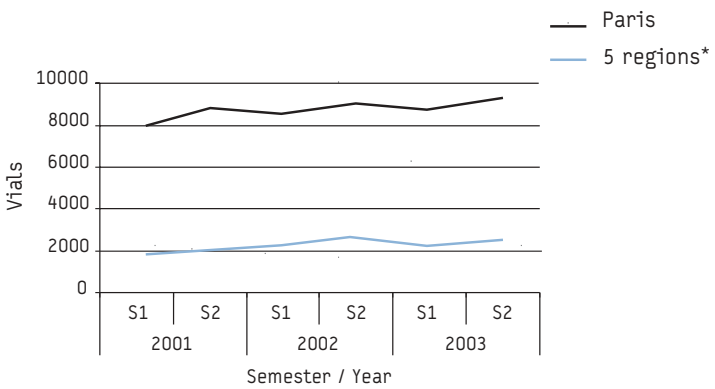
Overall, 46% of the patients agreed to complete the self administered questionnaire. This percentage increased over time but each year, participation was better in the other regions than in

the Ile-de-France. In the 3 months before syphilis diagnosis, 17% reported an exclusive steady partner and 83% casual partners. Both results did not change over time. Among those reporting casual partners, 14% reported one partner, 45% 2 to 5 partners, 24% 6 to 10 partners and 17% more than 10 partners. From 2001 to 2003, more than 50% of MSM reported knowing the person who was the source of infection. That person was reported as a steady partner for 23% of them and a casual partner for 77%. The casual partners were met in saunas/darkrooms (34%), parks/streets (18%), bars (14%), internet (13%) and various other places (21%). The comparison of unprotected sexual practices with the person who was the source of infection reported as a steady or a casual partner was respectively exclusive oral sex (39% vs 60%), exclusive anal intercourse (3% vs 8%) and association of the two practices (58% vs 32%) (p = 0.03).

In Paris and in the 5 regions, trends in the sales of benzylpenicillin benzathine 2.4 million UI in private pharmacies are similar to those observed in the surveillance system. From 2001 to 2003, sales increased in Paris (+ 22%) and in the 5 regions (+ 10%) [FIGURE 2]. For the French regions with no case reporting surveillance system, those sales are the only available indicator and they slightly increased (+ 5%) between 2001 and 2003.

FIGURE 2

Sales of benzylpenicillin 2.4 MUI in private pharmacies, France, 2001-2003



* Bourgogne, Languedoc, Nord, Pays-de-la-Loire, Provence-Alpes-Côte d'Azur

Discussion

In France, withdrawal of syphilis mandatory notification and resurgence of syphilis occurred in 2000 and pinpointed the need to implement a surveillance system. For the first time, a French surveillance system is collecting clinical and behavioural data in volunteer, mostly public settings in charge of STI care. An additional system describing trends in the sales of benzylpenicillin benzathine is a surrogate for estimating syphilis care by private providers. Our findings are subject to limitations. First, case-reporting surveillance is based on the participation of volunteer settings and these are not representative of all settings treating syphilis patients in France. Second, benzylpenicillin benzathine 2.4 million UI is the quasi-exclusive treatment of syphilis but other rare indications exist as rheumatic fever, streptococcal diseases, and nonvenereal endemic syphilis.

The Ile-de-France region, mainly the city of Paris, was the area most affected by the syphilis epidemic. Between 2001 and 2002, part of the important increase in cases in Paris was due to a specific syphilis intervention campaign (May to September 2002). The campaign was aimed at raising awareness about syphilis and encouraging those at risk to come for screening, target populations being health professionals and MSM [5]. Free syphilis diagnosis and treatment were expanded at public clinics dedicated to HIV testing. Increasing trends of early latent syphilis cases suggest a positive impact of the campaign, one of the key messages being syphilis could be asymptomatic. Moreover, the impact of this intervention was also seen on the sales of benzylpenicillin benzathine 2.4 million UI suggesting that syphilis patients were treated by private providers. As in Paris, the syphilis campaign was also implemented in some main French cities but interventions could vary according to local decisions (e.g. free syphilis diagnosis).

A survey (Baromètre Gay) was conducted in gay venues after the campaign (end of 2002). In a self-administered questionnaire, 3.9% of the respondents of the Ile-de-France region reported a syphilis diagnosis in the last 12 months compared to 1.3% of the other respondents [6]. Moreover, more than one third (37%) of those from the Ile-de-France region had done a syphilis test in the 12 previous months compared to 18% of those from the other regions. The syphilis epidemic in France is predominant among MSM of whom more than half are HIV positive. Among MSM, the decreasing trend in HIV co-infection among syphilis cases in the Ile-de-France region could be explained by the fact that before the campaign, a syphilis test was offered more frequently to HIV positive persons and after, widely offered to MSM even in the absence of symptoms.

Analysis of the self-administered questionnaires associated to case reports suggested that unprotected oral sex is a risk behaviour for syphilis. This has been also described in a study in the United Kingdom [7]. In the French study cited previously among gay venues attendees, no question about unprotected oral sex was asked but factorsindependently associated with reporting a diagnosis of syphilis (in the 12 previous month) were at least one unprotected anal intercourse with casual partners in the last 12 months, an HIV (+) status and regular backroom attendance [6].

In conclusion, syphilis transmission is still ongoing in France in 2003. The voluntary syphilis surveillance system, despite its limits, fulfils the defined objectives. In the future and after an evaluation, the syphilis surveillance issues might change. Nevertheless, prevention programmes on syphilis and HIV infection should be sustained among high risk populations and the role of unprotected oral sex in the transmission of syphilis should be emphasised.

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