



# ACTAS

## Derma-Sifiliográficas

Full English text available at  
[www.elsevier.es/ad](http://www.elsevier.es/ad)



### OPINION ARTICLE

## Syphilis, a Resurgent Disease

### El resurgir de la sífilis

**M.J. Fuente**

*Servicio de Dermatología, Hospital Universitari Germans Trias i Pujol, Badalona, Barcelona, Spain*

Syphilis is a resurgent disease, the categorical conclusion of numerous studies carried out on several continents,<sup>1-6</sup> and is largely explained by a rise in diagnosed cases in men who have sex with men (MSM).<sup>7</sup> The figures are overwhelming. In France the registered cases of syphilis rose from 37 in 2000 to 428 in 2003; 96% were men.<sup>4,8</sup> In the United Kingdom 293 cases were registered in 1998 and 2226 in 2003; once again all were men.<sup>9</sup> In the United States, 5979 cases in 2000 increased to 7980 in 2004 (84% men).<sup>10</sup> According to official records in Spain, 772 cases were registered in 1998 and 2545 in 2008, corresponding to a rise in the incidence of this disease from 1.96 to 5.70 per 100 000 population.<sup>1</sup> These figures mean that the incidence of syphilis in Spain has tripled in the last decade.<sup>1</sup> Consistent with data from other countries, the vast majority of the cases of syphilis reported are men (86%), particularly MSM.

To understand the reactivation of this disease we should analyze events in the previous decades. In the 1990s the incidence of syphilis and other sexually transmitted diseases fell considerably. Frightened by the human immunodeficiency virus (HIV) pandemic and alerted by aggressive prevention campaigns, many individuals in high-risk groups changed their sexual habits, the outcome being a very significant reduction in all sexually transmitted diseases, including syphilis. Perhaps for this reason the changing trend currently observed is not surprising in the

least and seems to be the result of several factors, the main one being a marked change in sexual habits or behaviors in the population at risk. Today, progress in treating complications arising from HIV infection, now a chronic rather than a fatal condition thanks to new antiretroviral drugs, appears to have led to an underestimation of the effects of this infection. Such optimism about the prognosis of HIV infection seems to have generated a loss of fear of contagion. Consequently, after decades of having been instructed to use condoms and to restrict the number of sexual partners, several risk groups (particularly MSM) may no longer be afraid of the threat of HIV infection and feel released from the ordeal or tedium of sex with precautions imposed by previous circumstances. Other factors such as social changes due to migratory movements and contact between different population groups could also have influenced this situation, though with much less impact.

In this issue of *Actas Derma-Sifiliográficas*, Repiso et al<sup>11</sup> analyze the behaviors and epidemiologic characteristics of a group of MSM diagnosed with syphilis compared with a control group, demonstrating that syphilis continues to be a significant public health problem associated with the inconsistent use of condoms (odds ratio [OR] 3.96) and the large number of sexual partners in the months prior to diagnosis (OR 3.22-3.98). These data are consistent with the findings of other studies, corroborating a high number of partners as one of the main risk factors for syphilis and HIV infection.<sup>2</sup>

For most authors,<sup>2,11</sup> sex without precautions (without use of a condom) is one of the risk variables underlying the transmission of syphilis and other sexually transmitted diseases. In all likelihood, however, there are several

*E-mail address:* [mjosefuente@hotmail.com](mailto:mjosefuente@hotmail.com)

additional variables that explain the controversial results obtained in some studies, among them the incorrect use of condoms; infections in the perigenital area, where the condom provides no protection; and failure to use condoms for anal penetration but not for other practices such as oral sex.<sup>12</sup> Finally, bearing in mind the stigma associated with diseases related to sexual practices, another option to be considered is the fact that some patients who do not use condoms might give false information to researchers for the sake of appearances, a circumstance that might well alter the conclusions of some studies.

A disconcerting finding is that a third of MSM diagnosed with syphilis had previously been diagnosed with some sexually transmitted disease. Of these cases, 30% were seropositive for HIV, a fact the majority were fully aware of.<sup>2,11</sup> Moreover, these patients had a higher number of partners than the rest and had unprotected sex more often.<sup>2</sup> These data corroborate the idea that, although patients had previously had other sexually transmitted diseases or were HIV-positive, they continued to have high-risk sexual behaviors, exposing themselves to reinfection and their partners to these diseases. Many HIV-negative MSM appear to trust their partners to be responsible and believe that they would warn them if they were HIV-positive before having high-risk relations. However, our information shows that very few HIV-positive individuals reveal their serologic status to their casual partners before having unprotected intercourse.<sup>13</sup>

Finally, alcohol or drug use before or during sex increases the likelihood of unprotected sexual relations with casual partners whose serologic status is unknown.<sup>7</sup>

One might wonder whether these practices are common among the population of MSM or whether the results are biased because of the profile of individuals in the studies generally recruited from patients attending sexually transmitted disease clinics. Of particular interest is a recent study in Catalonia, Spain, on the sexual behaviors of MSM based on data obtained from anonymous surveys carried out in recreational places frequented by this group (bars, saunas) and by the Gay-Lesbian Coordinating Committee of Catalonia (Coordinadora Gay-lesbiana de Cataluña).<sup>14</sup> According to their data almost half (45%) of those who completed the survey had had more than 20 partners in the past year and a third had had unprotected anonymous sex. In this same study, 40% of interviewees who acknowledged having sex with casual partners said they had found them on the Internet. This result coincides with that of other recent studies associating an increase in sporadic sexual contact within social networks and the proliferation of places for anonymous sex.<sup>15,16</sup> New kinds of relationships are burgeoning in these networks, including the concept of "friends with benefits." This kind of sexual pairing begins with casual acquaintance (mostly over the Internet) and develops into a relationship of good rapport in which partners occasionally meet, mainly to have sex. The previously established trust generates a more intense sexual dynamic that results in partners not worrying about having safe sex.<sup>17</sup>

It is also worth remembering that some mistaken notions about the safety of certain sexual practices have been popularized for reasons that remain obscure. Thus, some

individuals believe oral sex to be safer than anal penetration and consequently do not take protective measures, although as many as 20% to 40% of cases of primary or secondary syphilis are attributable to transmission during oral sex.<sup>1,7,18</sup> Another widespread misconception among MSM is the belief of some HIV-infected individuals that having sex with other HIV-infected males renders a condom unnecessary. This practice, known as serosorting, clearly does not protect against other sexually transmitted diseases and can even cause HIV reinfection.<sup>19</sup>

In order to design preventative strategies for syphilis, it is important to know the profile of individuals at risk as this knowledge can be useful for establishing the reasons behind the current situation and can help ascertain which groups should be addressed to modify this trend. Most authors who have studied the Spanish situation agree that this profile would correspond to homosexual or bisexual MSM who are Spanish (60%–70%), are 35 years of age on average, have secondary or higher education, and have sex with more than 5 partners per year.<sup>2,14</sup> It is important to point out that a third of cases are seen in Latin American patients, many of whom are involved in prostitution.

In principle, syphilis is the paradigm of an infectious disease that could be eradicated since human beings are the only known host. Though clinical diagnosis can sometimes be complicated, serologic diagnosis is economical and easy to perform, and treatment is straightforward and inexpensive. However, the data reported in this issue by Pepiso et al<sup>11</sup> lead us to suspect that, far from disappearing, the incidence of this disease is gradually increasing. The current resurgence would justify the design of public health interventions to reverse this rising trend. At this point we should reflect on discovering the key elements for the design of really efficient measures. Given that it is difficult to devise strategies for the entire population, measures should target high-risk individuals through educational campaigns and focus on preventative measures, provide information about the use of condoms and promoting them, shed light on sexual habits mistakenly believed to be safe, and warn of the consequences of combining drugs and/or alcohol with unsafe sex. Effective means should be found to ensure that this information reaches high-risk individuals whether through the Internet, conferences, or information leaflets at leisure venues. Involving public figures who are well-known and respected by MSM in spreading these messages could help to improve the impact and credibility of the information.

Separate mention should be made of MSM engaged in male prostitution since a series of factors makes this group particularly vulnerable because of difficult access to health and social services, possible illegal immigrant status, lack of information, and often the difficulty of negotiating safe sex with clients.<sup>20</sup> In this case efforts should be made to adapt prevention messages that respond to this group's specific characteristics.

Other interventions might be to attempt to reduce the viral load of sexually transmitted diseases in the higher risk group, thus preventing transmission. Several countries (eg, Australia and the United State) have devised protocols that recommend annual testing of MSM with stable partners and more frequent testing (6 months) of MSM engaging

in high-risk practices; such analyses would involve a full screening for HIV, syphilis, hepatitis A and B, gonorrhoea, and chlamydia.<sup>21,22</sup> This protocol would prevent undetected propagation and would ensure suitable treatment of these diseases in the initial phases, thereby minimizing progression to more advanced stages.

An important point in traditional programs for syphilis control was notifying partners. The idiosyncrasy of sexual contacts in MSM thwarts this either because of anonymous sex or because of the high number of partners per year.

In conclusion, the leading factor behind the resurgence of syphilis both in Spain and elsewhere is associated with changes in the sexual habits of MSM. This is essentially due to an increase in unprotected sex with casual partners. The current challenge to health authorities is to find a way to raise the at-risk population's awareness of behavior-associated risk.

## References

- Diagnósticos de sífilis y gonococia en una red de centros de ITS: características clínico-epidemiológicas. Available from: <http://www.isciii.es/htdocs/pdf/grupotrabajoints.pdf>.
- Díaz A, Junquera ML, Esteban V, Martínez B, Pueyo I, Suárez J, et al. HIV/STI co-infection among men who have sex with men in Spain. *Euro Surveill.* 2009;14: pii=19426
- Jakopanec I, Grjibovski AM, Nilsen Ø, Aavitsland P. Syphilis epidemiology in Norway, 1992–2008: resurgence among men who have sex with men. *BMC Infect Dis.* 2010;10:105.
- Dupin N. Sexually transmitted infections in France in 2009. *Rev Prat.* 2010;60:520-5.
- Uusküla A, Puur A, Toompere K, DeHovitz J. Trends in the epidemiology of bacterial sexually transmitted infections in eastern Europe, 1995–2005. *Sex Transm Infect.* 2010;86:6-14.
- Seña AC, Torrone EA, Leone PA, Foust E, Hightow-Weidman L. Endemic early syphilis among young newly diagnosed HIV-positive men in a southeastern US state. *AIDS Patient Care STDS* 2008;22:955-63.
- Peterman TA, Furness BW. The resurgence of syphilis among men who have sex with men. *Curr Opin Infect Dis.* 2007;20:54-9.
- Couturier E, Michel A, Janier M, Dupin N, Semaille C. Syphilis surveillance in France 2000–2003. *Euro Surveill.* 2004;9:8-10.
- Righarts AA, Simms I, Wallace L, Solomou M, Fenton KA. Syphilis surveillance and epidemiology in the United Kingdom. *Euro Surveill.* 2004;9:21-5.
- Centers for Disease Control and Prevention. Primary and secondary syphilis: United States 2003–2004. *MMWR Morb Mortal Wkly Rep.* 2006;55:269-73.
- Repiso B, Frieyro M, Rivas-Ruiz F, de Troya M. Uso de preservativo y número de parejas sexuales en hombres que tienen sexo con hombres con sífilis. *Actas dermosif.* 2010; 101(10):847-852.
- Koss CA, Dunne EF, Warner L. A Systematic Review of Epidemiologic Studies Assessing Condom Use and Risk of Syphilis. *Sex Transm Dis.* 2009;36:401-5.
- Semple S, Patterson T, Grant I. Psychological characteristics and sexual risk behaviour of HIV+ men who have anonymous sex partners. *Psychology Health.* 2004;19:71-87.
- Folch C, Muñoz R, Zaragoza K, Casabona J. Sexual risk behavior and its determinants among men who have sex with men in Catalonia, Spain. *Euro Surveill.* 2009;14: pii=19415.
- Garofalo R, Herrick A, Mustanski BS, Donenberg GR. Tip of the Iceberg: young men who have sex with men, the Internet, and HIV risk. *Am J Public Health.* 2007;97:1113-7.
- Ogilvie GS, Taylor DL, Trussler T, Marchand R, Gilbert M, Moniruzzaman A, et al. Seeking sexual partners on the internet: a marker for risky sexual behaviour in men who have sex with men. *Can J Public Health.* 2008;99:185-8.
- Fernández-Dávila P. «Amigos con derecho a roce»: una oportunidad para contraer la infección por el virus de la inmunodeficiencia humana en hombres homo/bisexuales con prácticas sexuales de alto riesgo. *Gac Sanit.* 2007;21:471-8.
- Centers for Disease Control Prevention (CDC). Transmission of primary and secondary syphilis by oral sex—Chicago, Illinois, 1998–2002. *MMWR Morb Mortal Wkly Rep.* 2004;53:966-8.
- Campbell MS, Gottlieb GS, Hawes SE, Nickle DC, Wong KG, Deng W, et al. HIV-1 superinfection in the antiretroviral therapy era: are seroconcordant sexual partners at risk? *PLoS One.* 2009;4:5690.
- Hurtado I, Alastrue I, García de Olalla P, Albiach D, Martín M, Perez-Hoyos S. Intervención preventiva en lugares de interacción social de hombres que mantienen relaciones sexuales con otros hombres. *Gac Sanit.* 2010;24:78-80.
- Ryder N, Bourne C, Rohrsheim R. Clinical audit: adherence to sexually transmitted infection screening guidelines for men who have sex with men. *Int J STD AIDS.* 2005;16:446-9.
- Johnson WD, Diaz RM, Flanders WD, Goodman M, Hill AN, Holtgrave D, et al. Behavioral interventions to reduce risk for sexual transmission of HIV among men who have sex with men. *Cochrane Database Syst Rev.* 2008;3:CD001230.