

MULTIDRUG-RESISTANT METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) STRAIN IN A MEN-WHO-HAVE-SEX-WITH-MEN (MSM) COMMUNITY IN THE UNITED STATES: COMMENT

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The community-acquired methicillin-resistant *Staphylococcus aureus* (CA-MRSA) clone known as ST8, t008 or USA300 is widespread in the United States (US) [1] and has been reported from Canada [2] and from several European countries [3-8]. It is characterised by a particular pulsed-field gel electrophoresis (PFGE) pattern, staphylococcal protein A (spa) type t008, multi locus sequence type 8 (ST8), Staphylococcal Cassette Chromosome mec (SCCmec) type IVa and encoding Panton-Valentine leukocidin (PVL). It can cause severe skin and soft tissue infections, endocarditis, sepsis, (necrotizing) pneumonia and neonatal death, and is spread by skin-to-skin contact. Transmission has been observed via contact sports [9,10] and in prison inmates [11], and it has now become a common cause of hospital-acquired infection in US hospitals [12,13].

In recent years, relatively large outbreaks of severe skin infection in men who have sex with men (MSM) caused by MRSA strains with the PVL gene were reported from the US [14-17]. In Europe, severe infections with PVL-positive *S. aureus* strains have been reported from France, Scotland, Sweden and the Netherlands [18]. Some, but not all, were in MSM.

A study due to be published in the 19 February issue of *Annals of Internal Medicine* [19] has received prominent attention in the world's media this week, because it concludes that infection with multidrug-resistant USA300 (ST8) MRSA is common among MSM in San Francisco and Boston, and that infection may be sexually transmitted within the MSM community. Clinical manifestations include infections of the buttocks, genitals and the perineum. Male-male sex and previous MRSA infection are found to be independently associated with acquiring the multidrug-resistant strain. The same strain was also found in a homosexual man in Boston suggesting sexual transmission. HIV infection appeared not to be independently associated with the specific clone.

The paper's suggestion that ST8 may be being sexually transmitted by MSM is debatable, and more research is needed to discover if this is in fact the case. The researchers used a population-based survey and cross-sectional study using chart review. One of the settings was an HIV clinic and therefore the patients of this clinic were not representative of the MSM population. The authors did not have access to data on the specific sexual behaviour of those infected with this MRSA strain. As the risks associated with some sexual behaviour are much greater than with others it needs more

detailed information. Sexual risk could only be assessed by the authors using proxy-indicators. At this time there is no evidence that this MRSA strain is transmitted sexually in the classical sense of the term.

What are the implications of this strain for Europe? To our knowledge, this strain of MRSA is not as common in Europe as compared with the US. Furthermore, we do not know the extent of its spread among MSM in Europe. In the Netherlands in 2003, the detection of a few cases of PVL-positive MRSA in MSM led to public health action (surveillance, and a low-key awareness campaign for physicians and in the gay community) [18].

In recent years, several severe outbreaks of sexually transmitted infections (STI) have been observed among MSM in Europe. Lymphogranuloma Venereum (LGV) and syphilis have spread fast between major cities across countries [20,21,22]. Three lessons can be taken from this for the current situation. Firstly, if this MRSA strain is introduced in Europe, it may travel rapidly within the MSM community, with the potential for outbreaks. Secondly, it may initially remain unnoticed because of a lack of awareness about this disease and if diagnosis is done outside the regular STI and HIV care, as was also experienced with LGV [23] (in countries where STI care and dermatology are combined, early recognition of outbreaks among MSM is feasible). Thirdly, the association of MRSA with MSM does not necessarily reflect sexual transmission per se, but could be the result of intimate skin-skin contact.

In conclusion, clinicians across Europe should be aware of this particular strain as a possible aetiology in case of skin infections in MSM. Pending further research, awareness may also need to be promoted among the MSM community to highlight the symptoms, prevention measures and implications.

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* Erratum. The following were erroneously listed as authors in the above article, and have therefore been removed from it: F Hamers, S Tsoлова, JT Weber and G Bee.

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This article was published on 17 January 2008.

Citation style for this article: van de Laar MJ, Monnet DL, Herida M. Multidrug-resistant methicillin-resistant *Staphylococcus aureus* (MRSA) strain in a men-who-have-sex-with-men (MSM) community in the United States: comment. *Euro Surveill*. 2008;13(3):pii=8019. Available online: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=8019>