Nottingham *Staphylococcus aureus* population study: prevalence of MRSA among elderly people in the community

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The spread of methicillin resistant *Staphylococcus aureus* (MRSA) has caused problems in most hospitals in the United Kingdom in the past decade. The extent to which the community serves as a reservoir for MRSA is unknown despite the growing recognition of MRSA as a community pathogen in various countries. We investigated the prevalence of nasal carriage of MRSA in a sample of people aged 65 and over who live in their own homes and represent the elderly population in the Greater Nottingham Health District, where MRSA is endemic in hospitals.

**Participants, methods, and results**

We used electoral ward level statistics from 1991 to combine the catchment areas of seven large general practices and provide a study population of which the demographic composition (age, sex, social class, ethnicity, and proportion of elderly people living alone) was representative of the Nottingham Health District, which in most respects is similar to England as a whole. With the general practitioners’ cooperation, we invited 1615 randomly selected people aged 65 or over to take part in the study, excluding those whose permanent address was a residential or nursing home. We carried out the study at the time of administration of influenza vaccinations on the premises of the participating surgeries. Of those invited, 1047 (64.8%) elderly people presented for the investigation, and we enrolled 962 into the study. Samples consisted of swabs taken from both anterior nares. We used standard laboratory protocols to enrich and identify methicillin susceptible *S. aureus* and MRSA and used SmaI macrorestriction to type them genetically. We collected data on baseline demographic variables as well as specific risk factors. We used the χ² test for univariate analysis of categorical variables, multivariate logistic regression to identify independent risk factors, and ward based Jarman deprivation scores to stratify data on baseline demographic variables as well as specific risk factors. We used the χ² test for univariate analysis of categorical variables, multivariate logistic regression to identify independent risk factors, and ward based Jarman deprivation scores to stratify data by socioeconomic characteristics.

The sample comprised 1% of the population of the Nottingham Health District aged 65 and over. We found nasal carriage of methicillin susceptible *S. aureus* in 257 people (26.7%, 95% confidence interval 24.1% to 29.8%). We isolated MRSA from eight people. The prevalence of MRSA was 8 (5 to 14) per 1000 population. We identified no risk factors for carriage of methicillin susceptible *S. aureus*. Carriage of MRSA was associated with several risk factors in univariate analysis (table), and two of these remained independently associated after logistic regression—hospital admission in the six months before the investigation (adjusted odds ratio 13.0, 2.5 to 68.2) and diabetes (6.8, 1.35 to 34.3). The presence of chronic skin ulcers was strongly associated, as a confounder, with both carriage of MRSA and previous hospital admission. Carriage of MRSA was independent of deprivation scores, indicating no association with lower living standards. All MRSA isolates were indistinguishable from the epidemiological MRSA type 15 by genetic typing. This clone has become widely prevalent in English hospitals and was also the most common MRSA strain in the two major hospitals in Nottingham at the time of investigation.

**Comment**

In contrast to its continuous occurrence as the major nosocomial pathogen in England, MRSA has not encroached into the community to a large extent, with both carriage of MRSA and previous hospital admission. Carriage of MRSA was independent of deprivation scores, indicating no association with lower living standards. All MRSA isolates were indistinguishable from the epidemiological MRSA type 15 by genetic typing. This clone has become widely prevalent in English hospitals and was also the most common MRSA strain in the two major hospitals in Nottingham at the time of investigation.
Longitudinal study of genital infection by herpes simplex virus type 1 in western Scotland over 15 years

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Although herpes simplex virus type 2 (HSV-2) is regarded as causing most cases of genital herpes, preliminary reports suggest that the type 1 virus (HSV-1) is increasingly the cause of infection.¹ Recurrence rates, viral shedding, and the mode of acquiring HSV-1 infection are different from those for HSV-2, so counselling and clinical management strategies may need to be revised. We studied longitudinal trends in laboratory reports of genital HSV-1 infection.

Methods and results

The West of Scotland Specialist Virology Centre processes 99% of all herpes simplex virus culture samples in the region. All genital samples of herpes simplex processed between 1 January 1986 and 31 December 2000 were reviewed for source of referral, patient’s sex and age (stratified into seven bands: ≤20, 21-25, 26-30, 31-35, 36-40, 41-45, and >45 years), and the type of virus isolated.

Samples were cultured and then typed using fluorescein labelled monoclonal antibodies to HSV-1 and HSV-2 (Syva Microtrak). From January 1999, the virus was detected and typed using a polymerase chain reaction method and restriction fragment length polymorphism.² The referral patterns and age and sex profiles of patients did not change during the period of analysis.

We compared the proportion of HSV-1 in all positive swabs between sexes and ages using χ² tests, and over the three year time bands by the Cochran Armitage trend test (both overall and within four subgroups with age categorised as ≤25 years or >25 years for each sex) using SAS 8.2.

Of 10 547 swabs, the virus was identified in 3181 (30%); 3126 were typed, 1530 (49%) as HSV-1 and 1596 (51%) as HSV-2. Of the swabs testing positive for HSV, 2004 (63%) were from women and 1177 (37%) were from men. Age was recorded for 3099 (97.4%) patients, with 555 (18%) aged ≤20, 885 (29%) aged 21-25, 686 (22%) aged 26-30, 413 (13%) aged 31-35, 239 (8%) aged 36-40, 159 (5%) aged 41-45, and 162 (5%) aged >45 years. The origin of the request to detect the virus was recorded for 10 476 (99%) samples: 7579 (72%) were from genitourinary medicine clinics, 678 (6%) from general practice, 225 (2%) from family planning clinics, and 1996 (19%) from other sources.

HSV-1 was strongly associated with female sex and younger age (P < 0.0001). Over the entire study period,