



Methicillin-resistant *Staphylococcus aureus* carriage in a long-term care facility: hypothesis about selection and transmission

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Mots-clés	cross-transmission [8], Elderly [9], long-term care facility [10], MRSA carriage [11]
Résumé en anglais	<p>Background: many studies have identified long-term care facilities (LTCFs) as reservoirs of patients carrying methicillin-resistant <i>Staphylococcus aureus</i> (MRSA). However, few data about the mechanisms of MRSA diffusion in these settings are available. Objectives: the purpose of our study was to suggest hypothesis on the possible ways of MRSA transmission to residents in or outside a LTCF. Methods: data concerning patients on the day of the survey and within the preceding year were collected. Multivariate analysis was performed by logistic regression to identify characteristics associated with MRSA carriage. MRSA strains were analysed by pulsed-field gel electrophoresis (PFGE) and the relatedness between DNA patterns was studied with Gel Compar software. Results: the prevalence of MRSA carriage was 37.6%. Treatment with fluoroquinolones or third-generation cephalosporins [odds ratio (OR) = 12.07; 95% confidence interval (CI) = 5.90-24.7], treatment with other antimicrobial agents (OR = 4.40; 95% CI = 2.43-7.97), at least one medical imaging session (OR = 5.08; 95% CI = 2.66-9.69) within the 12 preceding months, and the presence of a subcutaneous catheter on the day of the survey (OR = 3.09; 95% CI = 1.87-5.10) were independently associated with MRSA carriage. Twenty-eight of the 38 strains tested were clustered in two major groups. In each of these groups, strains had at least a 90% relatedness. These strains were isolated in patients hospitalised in different areas of the LTCF. Conclusion: we identified that both molecular and epidemiological arguments support the hypothesis of the possibility of MRSA cross-transmission inside the LTCF. Further studies are needed to confirm and explain the association identified between MRSA carriage and medical imaging.</p>

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