

Introduction

- Methicillin-resistant *Staphylococcus aureus* (MRSA) colonization in hemodialysis patients is associated with higher risk for systemic infection.
- Recent hospitalization and temporary dialysis access are known risk factors for MRSA colonization.
- Whether MRSA colonization rates in hospital-based dialysis centers differ from those in separate dialysis centers is unknown.
- Data on MRSA decolonization strategies in hemodialysis patients are scarce.

Objectives

- Evaluation of MRSA colonization rates in separate and in hospital-based dialysis centers
- Evaluation of MRSA decolonization strategy

Methods

- Nasal swab cultures for MRSA were performed regularly (all patients yearly plus in case of hospitalization > 3 days, chronic wounds, exit-site infection, 4 weeks after MRSA decolonization, or contact with MRSA carriers) according to the local health authority.

Methods

- Results of positive swab cultures for MRSA were assessed in hemodialysis patients of two separate dialysis centers and four hospital-based dialysis centers from 2010 to 2016.
- MRSA-positive patients were decolonized according to a standardized protocol (intranasal mupirocin, tooth brush, oral and body octenidine) and MRSA was tested 4 (and/or 8) weeks after decolonization.

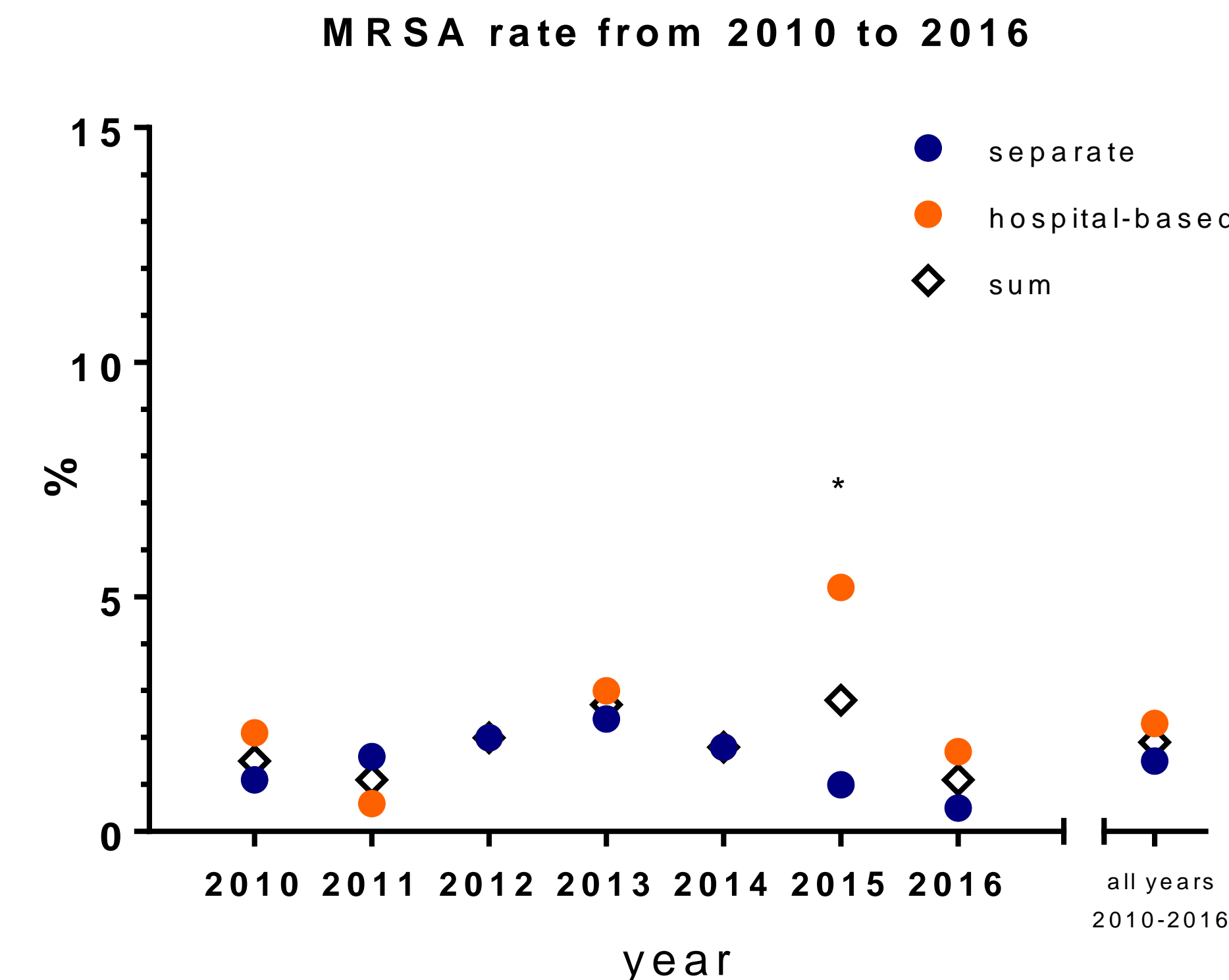


Figure 1. MRSA rates in separate vs. hospital-based dialysis centers from 2010 to 2016.

Results

- From 2010 to 2016 nasal swab cultures (n=2506) for MRSA were performed in hemodialysis patients (i.e. 358 ± 29 patients per year). The mean screening rate was 85% (separate centers, 96%; hospital-based, 79%).
- The rate of positive nasal swab cultures for MRSA of all centers ranged from 1.1% to 2.8% (mean 1.9%).

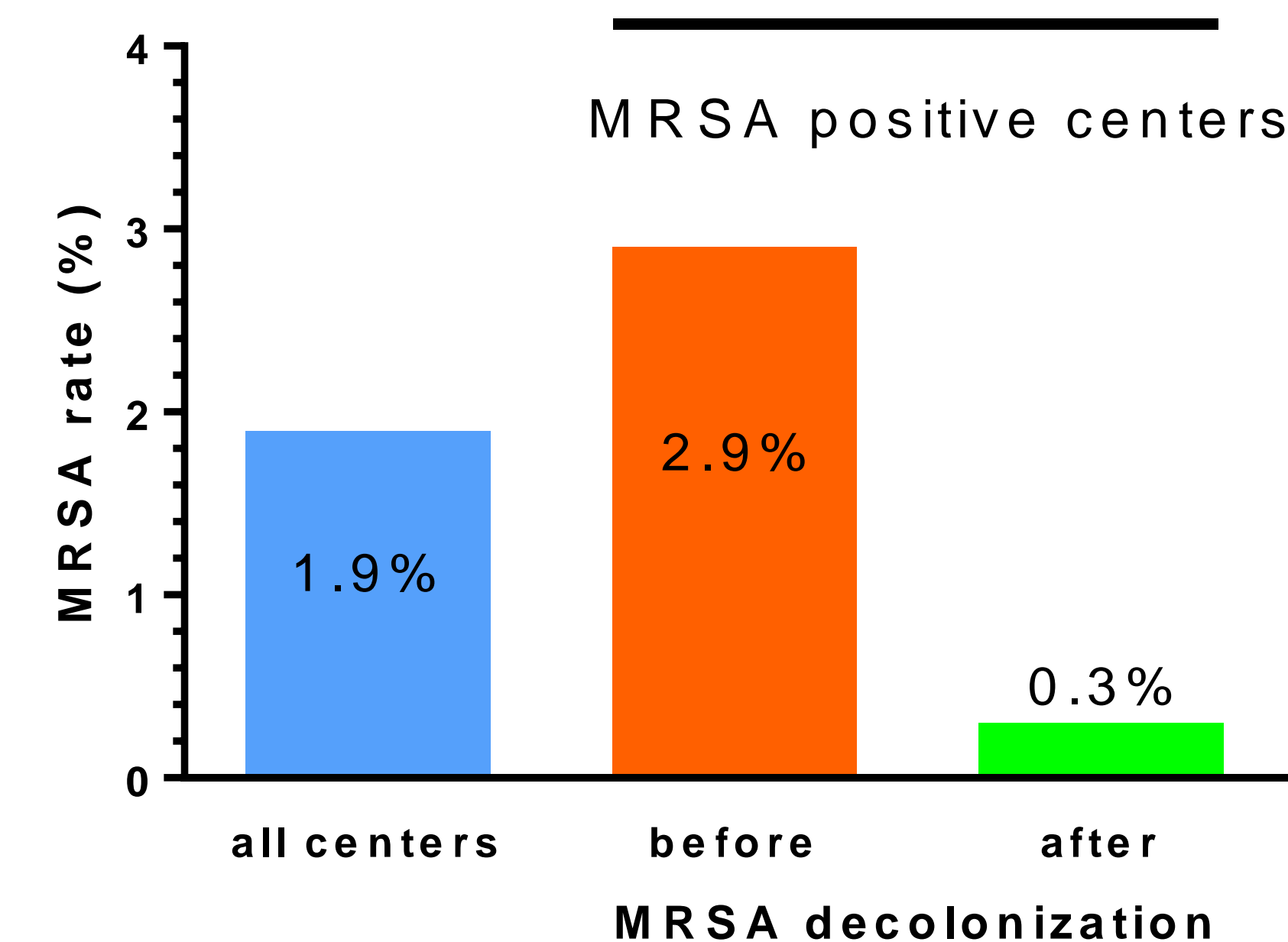


Figure 2. MRSA rates in all centers and in centers with positive results before and after decolonization.

- Over the study period, separate dialysis centers did not have significantly lower MRSA rates when compared to hospital-based dialysis centers (1.5% vs. 2.3%, $p=0.15$; Figure 1). A significant difference in MRSA rates between separate and hospital-based dialysis centers was noted in 2015 (1.0% vs 5.2%; $p=0.036$).
- Decolonization resulted in a 92% reduction of positive MRSA results within 4-8 weeks (from 2.9% to 0.3%; Figure 2).

Summary & Conclusions

- Overall, no significant differences in positive nasal swab cultures for MRSA could be detected between hospital-based versus separate dialysis centers.
- Our MRSA decolonization strategy was effective.
- Whether in-depth analysis of transmission ways may further reduce MRSA rates in dialysis patients remains to be investigated in future studies.

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