

MRSA endocarditis

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After methicillin was introduced in 1959 to treat penicillin-resistant *Staphylococcus aureus* infections, methicillin-resistant *S. aureus* (MRSA) was reported 2 years later. The most common organism identified in acute infective endocarditis (AIE) is still *S. aureus* associated with increased hospital mortality, morbidity and hospitalization. In Germany, the proportion of MRSA among *S. aureus* microbiologic examinations was 1.1% in 1990 and dramatically increased to 17.5% by 2001 and reached 21.9% in 2009. Due to the biofilm in AIE, adequate treatment is challenging, including appropriate antibiotic therapy. To improve outcome of AIE early adequate antibiotic therapy is needed, however vancomycin has a decrease microbe clearance and poor clinical response compared with β -lactam agents in methicillin-susceptible *S. aureus*. Today, several reports on clinical failures in MRSA with vancomycin were documented even at MICs <2.0 $\mu\text{g/ml}$. Current guidelines recommend higher trough vancomycin of 10-20 $\mu\text{g/ml}$, which will lead to increase complications such as nephrotoxicity. Therefore more effective alternatives of antibiotic treatment are needed to treat MRSA endocarditis and will reach into the biofilm. This overview reports recent developments to improve MRSA endocarditis treatment.

Biography

Pascal M. Dohmen is staff surgeon at the Heart Centre Leipzig and full Professor at the University of Leipzig since 2010. Before, he was associated director at the department of cardiovascular surgery and director of the TE research at the Charite, Medical University Berlin. He achieved his M.D. degree (cum Laude) from the KUL in 1997 and specialized in cardiac surgery in 2002. He was a co-worker at CEHA till 1997. From 1997 till 1999, he was co-worker at the European Homograft Bank. In 2003, he received the "Venia legend" for cardiac surgery and was docent at the Medical University Berlin. In 2004, he received the C. Walton Lillehei Young Investigator's Award. Since 2010, he is full Professor at the University of Leipzig. He contributed to develop several experimental research departments in the world and is author of over 170 international publications in the field of clinical and experimental cardiac surgery. Since 2012, he is executive editor of the Journal of Medical Microbiology and Diagnosis as well as several editorial boards of international journals.

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