

Increased incidence of diabetes 2 years after discharge from *Staphylococcus aureus* bacteremia compared to matched population controls

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OBJECTIVES

We hypothesized that *Staphylococcus aureus* bacteremia (SAB) may be an indicator of prediabetes and thereby signify an increased risk of DM following SAB.

No prior study has investigated the incidence of DM after SAB.

METHODS

Nationwide population-based matched cohort study.

- Matched 1:10 by age and sex
- Cases with DM prior to SAB admission were excluded
- Incidence rate (IR) and ratio (IRR) with 95% confidence interval (CI) was estimated by Poisson regression.
- All analyses were adjusted for age, sex, comorbidity, hospital contact and time period.

Databases

- The Danish National Discharge Registry
- The Danish National Diabetes Registry

CONCLUSION

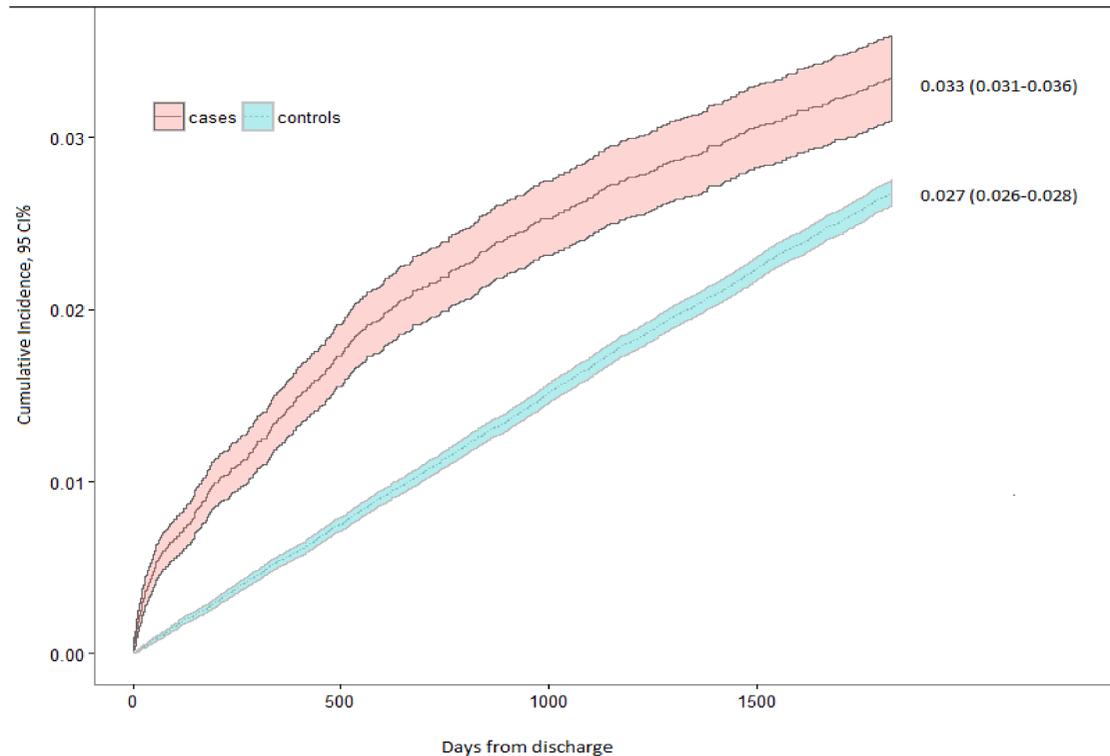
The risk of DM was markedly increased up to 2 years after SAB compared to population controls.

In addition to screening for DM during admittance, we suggest that screening cases of SAB for DM in the 2 years following SAB may allow for earlier detection of DM and prevention of further disease progression.

The number needed to screen in order to detect one case of DM was 91 within two years of SAB.

RESULTS

Figure 1. Elevated cumulative incidence for diabetes mellitus following *Staphylococcus aureus* bacteremia two years after SAB discharge



- Of 19,988 individuals with SAB and 185,579 population controls, 432 (2.2%) and 2033 (1.1%) were diagnosed with DM within 2 years after discharge of SAB.
- The risk of DM was highest immediately in the first 90 days and remained elevated for 2 years.
- The number needed to screen in order to detect one case of DM was 125 within the first year and 91 within two years of SAB.

Table 1. Incidence rates and rate ratios of diabetes mellitus among cases with *Staphylococcus aureus* bacteremia and population controls.

Time after discharge	0-90 days	91-180 days	181-365 days	366-730 days	731-1825 days
Incidence rates per 1000 PY (95% CI)					
Cases	9.36 (6.02-14.56)	4.71 (2.68-8.27)	2.77 (1.87-4.09)	2.84 (1.14-3.78)	1.77 (1.47-2.14)
Control	2.50 (1.67-3.75)	2.16 (1.58-2.97)	1.94 (1.40-2.71)	2.29 (1.82-2.89)	2.49 (2.17-2.85)
Incidence rate ratio	3.75 (2.96-4.74)	2.17 (1.32-3.58)	1.43 (1.13-1.81)	1.25 (1.04-1.50)	0.71 (0.62-0.82)

*Incidence rates per 1000 person year Adjusted for all variables. DM: diabetes mellitus ;mCCI: Charlson Comorbidity Index; CI: confidence interval