

RISK FACTORS, SYNOVIAL FLUID CULTURE POSITIVITY AND RECURRENCE IN SEPTIC ARTHRITIS IN NATIVE JOINTS

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71

PATIENTS WITH SANJO

2019 – 2025

38%

SYNOVIAL FLUID CULTURES POSITIVE

27 / 71

37.2%

BLOOD CULTURES POSITIVE

16 / 43 collected

16.9%

RECURRENCE

12 / 71

1 BACKGROUND & AIM

Microbiological confirmation in septic arthritis of native joints (SANJO) remains variable, and culture-negative cases frequently create diagnostic and therapeutic uncertainty.

Aim → identify factors associated with:

- (i) synovial fluid (SF) culture positivity;
- (ii) recurrence.

2 METHODS

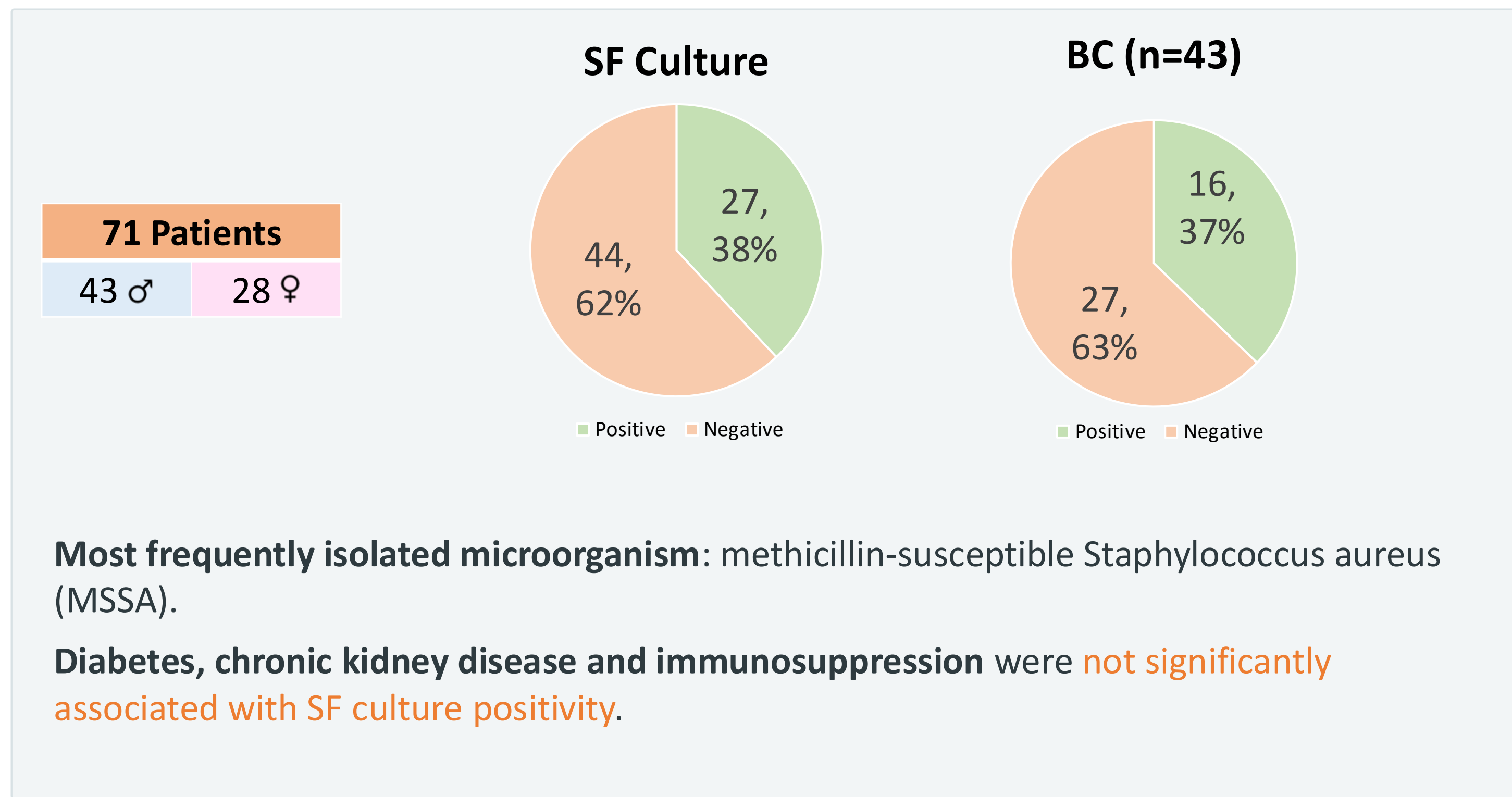
Retrospective cohort of patients treated for SANJO between 2019 and 2025.

Data collected: demographics, clinical risk factors, prior antibiotic exposure, blood culture (BC) results, SF microbiology and recurrence.

Recurrence defined as repeat drainage or infection-related readmission.

Statistical Analysis: Fisher's exact test; univariable and multivariable logistic regression. The multivariable model for SF culture positivity included BC positivity, prior MRSA/CPE colonisation and previous antibiotic exposure.

3 COHORT & MICROBIOLOGY



4 RECURRENCE

Occurred in 12 patients (16.9%)

SF culture positivity was **significantly associated** with recurrence: OR 6.63, p = 0.007.

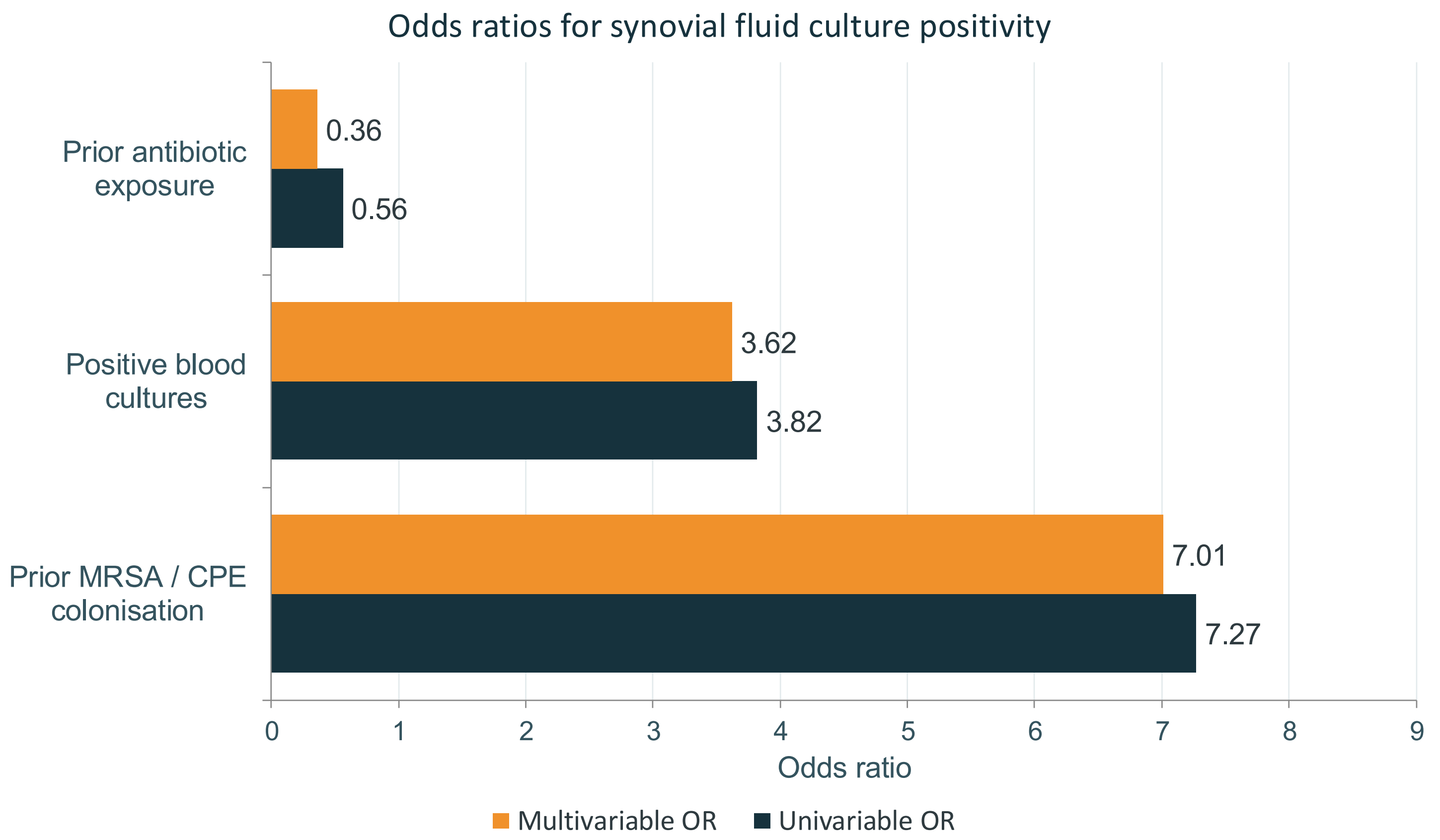
Diabetes showed the **strongest non-significant trend** among baseline risk factors: OR 2.87, p = 0.121.

Given the limited number of events, multivariable modelling for recurrence was not performed.

5 PREDICTORS OF SF CULTURE POSITIVITY

Variable	Univariable OR [IC] (p value)	Multivariable OR [IC] (p value)
Prior MRSA / CPE colonisation	7.27 [0,67 – 375,80] (0.066)	7.01 [0,55 – 90,21] (0.135)
Positive blood cultures	3.82 [0,90 – 17,96] (0.055)	3.62 [0,93 – 14,07] (0.064)
Prior antibiotic exposure	0.56 [0,16 – 1,77] (0.311)	0.36 [0,08 – 1,68] (0.196)
Diabetes / CKD / immunosuppression	not significant	not included

OR > 1 = higher odds of a positive SF culture. CI = Confidence intervals; none of these associations reached statistical significance.



6 CONCLUSIONS

Positive blood cultures and **prior MRSA/CPE colonisation** showed the **strongest associations** with SF culture positivity.

Prior antibiotic exposure tended to **reduce microbiological yield**.

SF culture positivity was strongly associated with recurrence, suggesting that **microbiological confirmation may identify a subgroup at higher risk of treatment failure**.

7 CLINICAL IMPLICATIONS

Collect **blood cultures systematically** in every suspected SANJO.

Optimise microbiological sampling before starting antibiotics.

Consider **closer follow-up of culture-positive SANJO**.

Limitations: retrospective design, single cohort and limited sample size; blood cultures were not obtained in all patients and the small number of recurrence events limited multivariable analysis. Several associations therefore show consistent trends without reaching statistical significance.

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