

## **Abstract**

### *Objective*

“Heterotaxy syndrome”, best segregated as isomerism, is characterized by laterality defects of the thoraco-abdominal organs, which may cause functional impairment of these systems. In particular, splenic anatomy and function are frequently affected, increasing susceptibility to bacteremia and potential mortality. This study explored whether certain phenotypic factors increase the risk of bacteremia in patients with isomerism.

### *Study design*

We identified patients with congenital heart disease and isomerism cared for at our institution from 1998 onwards. Review of outpatient, inpatient, and surgical records was conducted to collect data for all patients and analyzed to determine trends in the cohort. A cox-regression analysis was conducted to determine factors influencing freedom from bacteremia.

### *Results*

We identified 83 patients with congenital heart disease and isomerism. Of these patients, 17 (20%) had documented episodes of bacteremia with a total of 21 episodes, from which 22 bacterial organisms were cultured. A majority (86%) were nosocomial while the remainder was community- acquired. Median age at time of bacteremia was 4 months. Prophylactic antibiotics had been prescribed in 70% of the overall cohort. While splenic anatomy did appear to influence risk of bacteremia in univariate analysis, this significance was lost with multivariate analysis. None of the other factors was significantly associated in either univariate or multivariate analysis.

### *Conclusion*

Cardiac anatomy, state of cardiac repair, splenic anatomy, arrangement of the abdominal organs, type of atrial appendage isomerism, or antibiotic prophylaxis status are not significantly associated with the risk of bacteremia in patients with congenital heart disease and isomerism.