Abstract:

Purpose: The purpose of this study was to retrospectively investigate risk factors for chest port (port) infections within 30 days of placement (early port infections) in adult oncologic patients.

Materials and methods: This single-institution, three-center retrospective study identified 1,714 patients (868 males, 846 females; median age 60.0 years old) who underwent port placement between January 2013 and August 2017. All patients received an intravenous antibiotic prior to port placement. The median absolute neutrophil count was 5,260 cells/μL, the median white blood cell (WBC) count was 7,700 cells/μL, and the median serum albumin was 4.00 g/dL at the time of port placement. Double-lumen ports were most commonly implanted (74.85%) more frequently in an outpatient setting (72.69%). Risk factors for early port infections were elucidated using univariate and multivariate proportional subdistribution hazard regression analyses.

Results: A total of 20 patients (1.2%) had early port infections; 15 patients (0.9%) had positive blood cultures. The mean time to infection was 20 days (range, 9-30 days). The port-related 30-day mortality rate was 0.2% (4 of 1,714 patients). Most bloodstream infections were attributed to Staphylococcus spp. (n = 11). In multivariate analysis, hematologic malignancy (hazard ratio , 2.61; 95% confidence interval (CI), 1.15-5.92.; P = .02), hypoalbuminemia (albumin <3.5 g/dL; HR, 3.52; 95% CI: 1.48-8.36; P = .004), leukopenia (WBC <3,500 cells/μL; HR, 3.00; 95% CI: 1.11-8.09; P = .03), and diabetes mellitus (HR, 3.71; 95% CI: 1.57-8.83) remained statistically significant risk factors for early port infection.

Conclusions: Hematologic malignancy, hypoalbuminemia, leukopenia, and diabetes mellitus at the time of port placement were independent risk factors for early port infections.

Reference: