Evaluation of dalbavancin use in observation patients at a rural community hospital to prevent acute bacterial skin and skin structure admissions

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**Background:** Dalbavancin (Dalvance™) is a new intravenous (IV) lipoglycopeptide for use in adult patients with acute bacterial skin and skin structure infections (ABSSSIs). Dalbavancin has a half-life of approximately 8.5 days, which allows for two, once weekly doses. Inpatient ABSSSI admissions were evaluated and it was determined that the cost of admission for uncomplicated ABSSSIs was exceeding reimbursement.

**Research Objective:** The purpose of this study is to evaluate the effect of dalbavancin, in observation patients with the primary diagnosis of acute, uncomplicated skin and skin structure infections, on the number of inpatient admissions requiring IV antibiotics for this indication, as well as all-cause 30 day readmission rates.

**Methodology:** This was a single-center, open-label, controlled, prospective study conducted in the observation unit and outpatient infusion center of a medium sized community hospital. The observation unit physician screened patients using criteria developed by the infectious disease physician and obtained informed consent. Patients received 1000 mg of dalbavancin (750 mg if CrCl <30 mL/min) on the observation unit. They were then discharged with a follow-up appointment 7 days later in the outpatient infusion center. At the follow-up appointment the patients were evaluated by the observation unit physician and received the second dose of dalbavancin, if indicated. The control group consisted of patients admitted for uncomplicated ABSSSIs from November 2014-March 2015. Data for the dalbavancin group and control group were collected from progress notes, nursing interventions, and chart review. The primary outcomes included number of patients requiring hospitalizations for ABSSSIs and 30 day all-cause readmission rates for dalbavancin patients during the study period. Secondary outcomes included 90 day all-cause readmission rates, occurrence of ADRs, and cost/reimbursement for dalbavancin patients.

**Results:** Seven patients were screened for inclusion in the study. Five patients declined to provide informed consent and were not included in the study. Two patients were enrolled in the study. Both patients were admitted for cellulitis, signs/symptoms included fever, erythema, tenderness, and swelling. Each patient received one dose of dalbavancin in the observation unit and a second dose in the outpatient infusion center. On follow-up, both patients reported clearance of infection, no side effects, and satisfaction with dalbavancin therapy. There were 112 patients in the control group with an average length of stay of 4.9 days. Vancomycin was used in 71% of patients, 80% were culture negative and 10% had a MRSA positive wound culture. A total of 26% patients were readmitted, 17% within 30 days and 9% within 90 days.

**Conclusion:** Dalbavancin may have a role in decreasing admission/readmissions for ABSSSIs which was unable to be detected due to the small patient population. Conducting a prospective study and requiring informed consent led to decreased enrollment. If the study was to be repeated it would be recommended to conduct it as a retrospective study and extend dalbavancin use to the emergency department.