Assessment of the Propensity of Oritavancin to Induce Susceptibility Changes Among Staphylococcus aureus Nasal Cultures Isolated in a Phase 2 Study in Patients with Acute Bacterial Skin and Skin Structure Infections

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Abstract

Objectives: The clinical lipoglycopeptide oritavancin (ORI) is approved for the treatment of adults with acute bacterial skin and skin structure infections (ABSSSI) due to gram-positive bacteria (including Staphylococcus aureus). ORI is considered a last-line treatment option for methicillin-resistant S. aureus (MRSA) infections. Susceptibility changes (MSCs) in the nasopharynx and skin microbiota in patients with ABSSSI were monitored following the administration of ORI in a Phase 2 study (S0001). The main objectives were to evaluate whether the nasopharynx and skin microbiota would become susceptible to ORI following treatment with ORI as one of the main options for the treatment of ABSSSI. Thereafter, resistance patterns were monitored in isolates from the same patients before and after treatment with ORI.

Methods: Study S0001 was a Phase 2, multicenter, randomized, double-blind, placebo-controlled study of ORI in adults with ABSSSI. Nasal swab cultures were collected at Baseline (Day 1) and Test of Cure (TOC) visit (Day 29), 124 isolates cultured from swabs nasally were electrophoretically for susceptibility testing with or without clavulanic acid and 29 patients were monitored for corresponding isolates at both visits. The susceptibility of the post-therapy isolates was compared with those from the Baseline visit. Nasal isolates were collected from patients at baseline and at the Test of Cure (ToC) visit (Day 29). S. aureus cultured from nasally were electrophoretically for susceptibility testing with or without clavulanic acid and 29 patients were monitored for corresponding isolates at both visits. There is no pharmacological information regarding the presence of oritavancin in the nasopharynx. The baseline susceptibility and microbiological profile of all study isolates were analyzed. The median interval between Baseline and Test of Cure nasal swabs was 22 days. The median interval between Baseline and Test of Cure visit was 22 days. The median interval between Baseline and Test of Cure nasal swabs was 22 days.

Results: A total of 124 S. aureus isolates were initially recovered from nasal swabs from patients (124 isolates at Baseline). ORI and vancomycin MICs of 124 isolates from the corresponding isolate from the Baseline visit. Similarly, vancomycin MICs of post-therapy isolates were not more than one doubling dilution higher than those of the corresponding Baseline isolates.

Conclusions: In this Phase 2 study, no in vitro treatment of nasal swab isolates was associated with changes in susceptibility amongst S. aureus isolate cultured from the nasopharynx.

References


Disclosures

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