UTSouthwestern Medical Center

Clinical Efficacy of Tedizolid for the Treatment of Mycobacterium abscessus Infections in Solid Organ Transplant Recipients

Contact: YiKee.Poon @UTSouthwestern.edu

> 5323 Harry Hines Blvd Dallas, TX 75390 214-633-0299

Yi Kee Poon¹, Marguerite L. Monogue^{1,2}, James Sanders^{1,2}, Ricardo La Hoz²

¹Department of Pharmacy; ²Division of Infectious Diseases and Geographic Medicine, Department of Medicine

University of Texas Southwestern Medical Center, Dallas, TX, USA

BACKGROUND

- Mycobacterium abscessus is a rapidly growing mycobacteria that is inherently multi-drug resistant and, therefore, is challenging to treat.
- Tedizolid is an oxazolidinone with in vitro activity against many nontuberculous mycobacteria species, including M. abscessus.¹
- This study describes the clinical outcomes of solid organ transplant (SOT) recipients with *M. abscessus* infection treated with tedizolid as part of a multi-drug regimen.

METHODS

- Retrospective cohort study from January 1, 2010 to August 31, 2019 at the University of Texas Southwestern Medical Center.
- Included adult SOT recipients who met the American Thoracic Society/ Infectious Diseases Society of America criteria for nontuberculous mycobacterial infection and were treated with a multi-drug regimen that included tedizolid for at least 4 weeks.¹
- Outcome measures were assessed in May to June, 2020 and included surgical intervention or source removal and others in Table $1.^{2-5}$

Table 1. Outcome Definitions

Symptomatic	 Pulmonary infection: decreased cough or sputum production Skin or surgical site infection: decrease in size of the primary lesion
Microbiologic	 More than 1 negative culture with the causative species and sustained until the end of treatment
Radiographic	 Pulmonary infection: improved, unchanged or worsened based on imaging or bronchoscopy
Clinical Cure	 Improvement of symptoms without proven negative cultures during and sustained until the end of treatment
Cured	 Both symptomatic (if applicable) and microbiologic criteria were fulfilled
Recurrence	 Emergency of positive cultures with the same strain of causative species
Death	 Death due to any reason during any M. abscessus treatment

PATIENTS OVERVIEW

12
patients

28 – 78
years old

4 Female

8 Male

Transplants

1 Heart
Transplant

11 Lung

8 patients included tedizolid in the initial regimen

All patients had at least 3 drugs in the treatment regimen

Species Identified

- M. abscessus abscessus (6)
- M. abscessus massiliense (3)
- M. abscessus species (3)
- M. abscessus bolleti (2)

Companion Drugs

- Amikacin (2)
- Azithromycin (2)
- Bedaquiline (2)
- Clofazimine (1)
- Imipenem (11)
- Tigecycline (9)

Types of Infections

- Disseminated infections (5)
- Pulmonary infections (5)
- Surgical site infections (5)
- Skin and soft tissue infections (4)

OUTCOME RESULTS

- 7
 Had surgical intervention or source removal
- 7
 Had a microbiologic response
- 5

 patients

 Had radiographic improvement
- Were cured or clinically cured for all sites of infection

*Clinical outcomes were compared from the initiation of tedizolid-containing regimen to the end of any *M. abscessus* treatment.

*Not all sites of infection were applicable in each outcome measure (e.g. a microbiologic response may not be applicable for a skin and soft tissue infection).

CONCLUSIONS

- Most patients had multiple sites of infection, and treatment required combination antimicrobial therapy and appropriate surgical management.
- In this small cohort, tedizolid-containing regimens demonstrated a potential benefit in symptomatic and microbiologic improvement in SOT recipients with *M. abscessus* infection.

DISCLOSURE STATEMENT

None of the authors included on this study have any financial disclosures or conflicts of interest to report.

REFERENCES

- L. Griffith DE et al. *Am J of Respir Crit Care Med*. 2007;175(4):367-416.
- 2. Philley JV et al. *Chest*. 2015;148(2):499-506.
- Yang B et al. Antimicrob Agents and Chemother. 2017;61(6).
- . Shorr AF et al. Antimicrob Agents and Chemother. 2015;59(2):864-71.
- 5. Van Ingen J et al. *Eur Respir J*. 2018;51(3):1800170.