Introduction

- Eravacycline is an FDA approved fluoroquinolone tetracycline antibiotic indicated for the treatment of complicated intra-abdominal infections with broad coverage against many gram-negative, gram-positive, and anaerobic organisms, including resistant strains.1
- Acinetobacter is a gram-negative, aerobic, bacillary bacteria that is often multidrug resistant (MDR).2 This organism typically infects critically ill or immunocompromised patients and is often a hospital-acquired infection.3
- Acinetobacter pneumonia is typically treated using carbapenems, aminoglycosides, minocycline, tigecycline, or ampicillin / sulbactam.3
- Treatment options are limited for Acinetobacter infections as clinicians often encounter MDR strains. Eravacycline has demonstrated in-vitro coverage for Acinetobacter with a low MIC90 of 1mcg/mL, suggesting it may be an effective treatment alternative despite the lack of clinical evidence.
- We present the case of a patient with nosocomial Acinetobacter pneumonia effectively treated with eravacycline.

Case Report

- A 53-year-old male with a past medical history of pulmonary adenocarcinoma and oral squamous cell carcinoma, hypertension, and hyperlipidemia presented to the ED complaining of fever/chills.
- The patient had received a course of chemotherapy 1 week prior, and his fever started 2 days before presentation to the ED.
- He was empirically treated with cefepime and vancomycin, then changed to imipenem/cilastatin and micafungin due to a lack of clinical improvement.
- After 10 days of treating a suspected infection without positive cultures, MDR Acinetobacter baumannii was isolated in a sputum culture for the patient who had now developed CDI and switched to fidaxomicin.
- Treatment was changed to meropenem and minocycline, but again modified to eravacycline on day 13 due to lack of clinical response.
- Following the initiation of eravacycline, the patient significantly improved and was subsequently discharged.

Case Summary

- Day 1: Sputum is suspected. Chest X-Ray negative, but productive cough. Patient put on empiric cefepime + vancomycin.
  - WBC – 4.2 cells/μL, Temp – 102°F
  - Supplemental Oxygen: none
- Day 4: Infection source still unclear, micafungin is added. Patient develops expiratory wheeze. Diminished breath sounds, mornch heard in lungs.
  - WBC – 11.6 cells/μL, Temp – 103.2°F
  - Supplemental Oxygen: None
- Day 5: Blood, urine, sputum cultures all negative. Patient switched to imipenem/cilastatin + micafungin. Productive cough persists with scart tan and bloody secretions.
  - Micro – Blood, urine, sputum all negative
  - WBC – 17.5 cells/μL, Temp – 103.2°F
  - Supplemental Oxygen: 3-4L/min
- Day 13: Switched to monotherapy eravacycline 6mg IV Q12h for 7 days. Productive cough persisting and producing moderate amounts of brown sputum. Loose bowel movements.
  - Temp – 99.6°F
  - Supplemental Oxygen – 1L/min
  - Temp – 99.6°F
  - Supplemental Oxygen: None
- Day 20: Patient is discharged following 7-day course of eravacycline. Breath sounds diminished but clear.
  - Temp – 97.3°F
  - Supplemental Oxygen: None

Conclusion

This case report provides evidence supporting the use of eravacycline for the treatment of MDR Acinetobacter pneumonia. Utilizing eravacycline for pneumonia and other unapproved, off-label disease states warrants further investigation.

References

1. Acinetobacter pneumonia and other unapproved, off-label disease states warrants further investigation.
3. Xerava® (eravacycline) [prescribing information]. Watertown, MA: Tetraphase Pharmaceuticals Inc; October 2019