• Omadacycline (OMC), an aminomethylcycline antibiotic, is approved in the USA for the treatment of adults with community-acquired bacterial pneumonia (CABP) and acute bacterial skin and skin infections (ABSSSI) 1
• The Phase 3 studies included in the safety and efficacy population (SPP; OASIS-1, OASIS-2, OPTIC) included patients with moderate renal insufficiency (CrCl 60-89 mL/min) and had similar results (OMC monotherapy vs. comparators) 2-4
• Although predominantly eliminated in feces, ~30% of OMC is cleared renally 5
• Renal insufficiency may impact the pharmacokinetics (PK) of antibiotics, requiring dosage adjustments 6

METHODS
• In OASIS, OMC patients received 100 mg intravenously every 12 hours (q12h) for two doses, then every 24 hours (q24h) for a minimum of 3 days. They could then transition to 300 mg administered orally q24h. Comparator patients received MOX 400 mg orally q12h for at least 3 days, with the option to transition to MOX 400 mg administered orally q24h 7,8
• In OASIS-1, patients received the same regimen as described for OASIS Comparator patients received LZD 800 mg orally q12h in OASIS-1 and 400 mg orally q12h in OASIS-2 9,10
• In OASIS-2, patients received either OMC 450 mg orally q12h for two doses followed by 300 mg orally q12h or MOX 400 mg orally q12h for at least 3 days
• For this analysis, patients in each OMC treatment study were stratified by renal function:
  - Normal renal function: creatinine clearance (CrCl) >90 mL/min
  - Mild renal insufficiency: CrCl 60-89 mL/min
  - Moderate renal insufficiency: CrCl 31-59 mL/min
• All studies assessed treatment response, incidence of adverse events (AEs), and incidence of serious adverse events
• Efficacy endpoints:
  - Early clinical response (ECR): Survival with improvement in ≥2 symptoms of CABP (cough, sputum production, pleuritic chest pain, dyspnea) no worsening in any other symptoms, and no rescue antibacterial therapy
  - Clinical success: Efficacy plus survival with improvement in ≥2 symptoms 11,12
• This integrated analysis of three CABP and ABSSSI Phase 3 studies demonstrated that omadacycline was effective and had a similar safety profile to comparators in patients with mild to moderate renal insufficiency 3,13

RESULTS
• Patients with mild to moderate renal insufficiency were older (CABP: 71 years vs 53 years; ABSSSI: 62 years vs 43 years), had more comorbidities (CABP: 60.5% vs 22.4%; ABSSSI: 54.0% vs 26.5%), and had a higher incidence of hypertension (CABP: 62.2% 37.1%; ABSSSI: 63.1% vs 16.7%) than patients with normal renal function
• Elevations in creatinine and blood urea nitrogen (BUN) at PTE were mostly observed in patients with high baseline values (Table 1)
• No OMC dosage adjustments are required in patients with renal insufficiency based on a Phase 1 PK study in patients with end-stage renal disease 7,8
• Serious TEAEs were more frequent in CABP patients with moderate renal insufficiency (PTE) compared with those with normal renal function (Table 2)
• Serious TEAEs were more frequent in ABSSSI patients with moderate renal insufficiency (PTE) compared with those with normal renal function (Table 2)
• There was no difference in the number of patients reporting TEAEs by renal function. More patients reported nausea and vomiting in patients with moderate renal insufficiency (Table 2)

REFERENCES
8. Inc. Lynne Garrity-Ryan, Marla Curran and Paul C. McGovern a consultant to Paratek Pharmaceuticals, Inc. This study was sponsored by Paratek Pharmaceuticals, Inc. Medical editorial assistance was provided by Inovia Scientific Communications.
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