Tepotinib: Management of Adverse Events in Patients With *MET* Exon 14 Skipping Non-Small Cell Lung Cancer

Linda Ahn, MSN, ANP-BC, Terri Alexander, MSN-HCSM, Soetkin Vlassak, MD, Karin Berghoff, MD, PhD, and Liesbeth Lemmens, MSc, RN

BACKGROUND: Tepotinib, a highly selective, oral, once-daily MET inhibitor, has been approved for treatment of metastatic *MET* exon 14 skipping non-small cell lung cancer.

OBJECTIVES: This article provides nurse-specific recommendations for identification and management of tepotinib adverse events (AEs).

METHODS: Guidance on monitoring and proactive/reactive AE management was developed based on published literature and real-world nursing experience. Case studies of VISION trial participants were summarized to illustrate key principles.

FINDINGS: Tepotinib AEs are generally mild to moderate and manageable, and can include peripheral edema, hypoalbuminemia, nausea, diarrhea, and creatinine increase. Alongside supportive care, tepotinib interruption and dose reduction is recommended for grade 3 AEs. For peripheral edema, proactive monitoring is crucial, and treatment interruption (including frequent, short treatment holidays) should be considered early. Nursing management of tepotinib AEs includes proactive monitoring, patient education, and interprofessional team coordination.

KEYWORDS
MET exon 14 skipping; non-small cell lung cancer; peripheral edema; tepotinib

DIGITAL OBJECT IDENTIFIER
10.1188/22.CJON.543-551

***MET* EXON 14 (*METEX14*) SKIPPING DRIVES TUMOR GROWTH** in 3%–4% of non-small cell lung cancers (NSCLCs) (Hong et al., 2021). In these tumors, aberrant *MET* messenger RNA splicing causes production of an abnormal MET receptor with enhanced stability (Hong et al., 2021). This increases MET signaling, which promotes cancer cell proliferation and survival. The prognosis has traditionally been poor for these mostly older adult patients, who have a median age of 72 years and are typically older than patients with other oncogenic drivers (Awad et al., 2019; Le & Heymach, 2020; Tong et al., 2016). However, selective MET tyrosine kinase inhibitors (TKIs) have been introduced, marking a new era for management of this tumor molecular subtype (Hong et al., 2021).

Tepotinib is a highly selective, oral, once-daily MET TKI (Falchook et al., 2020). Based on the phase 2 VISION trial (NCT02864992), tepotinib was approved for treatment of metastatic *MET*ex14 skipping NSCLC in the United States in February 2021; it is also approved in several other countries (EMD Serono, 2021; Le et al., 2022; Markham, 2020; Paik, Felip, et al., 2020; Swissmedic, 2021). In the VISION trial, tepotinib demonstrated a durable clinical response in patients with advanced *MET*ex14 skipping NSCLC, with an objective response rate of 49.1%, median duration of response of 13.8 months, median progression-free survival of 10.8 months, and median overall survival of 19.7 months (Le et al., 2022; Morise et al., 2022; Paik, Felip, et al., 2020). Trial results indicated that the safety profile was manageable and patient quality of life (QOL) was sustained during treatment (Garassino et al., 2020). In addition, these data have supported guideline recommendations for tepotinib as a therapy for advanced/metastatic *MET*ex14 skipping NSCLC (Hanna et al., 2021; National Comprehensive Cancer Network [NCCN], 2022).

Optimal use of anticancer therapies requires effective prevention, recognition, and management of adverse events (AEs) to mitigate their effect on patients' QOL (Nunnery & Mayer, 2019). Effective AE management can minimize treatment interruptions or discontinuation, ensuring maximum benefit from therapy (Nunnery & Mayer, 2019; Schlichtig et al., 2019). These considerations are particularly important for patients with *MET*ex14 skipping, who may be at higher risk for AEs because of their advanced age, and associated comorbidities and concurrent medications (Cope et al., 2018; Le