Prescriber-Assigned Febrile Neutropenia and Emetic Risks Compared to the NCCN Risk Classification for Cancer Treatment Regimens

Background

• The National Comprehensive Cancer Network (NCCN) establishes standard of care for patients receiving anticancer therapy, and classifies regimens based on febrile neutropenia (FN) and emesis risks.

• eviCore healthcare licenses NCCN Guidelines as evidence for its proprietary clinical decision support (CDS)-based oncology utilization management program.

• This study was conducted to compare the FN and emesis risks assigned by the requesting physician (MD) to the NCCN guideline-assigned risks across a broad range of treatment regimens.

Methods

• Requests for prophylactic use of long-acting myeloid growth factors (MGF), NK1 receptor antagonists, and select 5-HT3 receptor antagonists from 3/2018 - 4/2019 were evaluated.

• Case requests with incomplete clinical data were excluded.

• Requests were stratified by MD-assigned and NCCN-assigned risk categories of high, intermediate/moderate, and low/minimal.

• Regimens classified as high or intermediate/moderate risk by prescribers and low/minimal risk by NCCN were assigned as potentially unsubstantiated MGF and antiemetic use, as these drugs are not recommended for primary prophylaxis in the low risk setting.

• Savings were estimated using average sales price (ASP) + 6% in a non-facility setting, assuming 6 cycles per case.

Results

• There were 502 fully evaluable MGF cases. 67.9% were incorrectly classified for FN risk by MD when compared to NCCN. Most misclassification occurred when the MD classified high risk but NCCN classified intermediate (n=132) or low (n=125), or when the prescriber classified intermediate risk but NCCN classified low (n=46). This resulted in 212 out of 502 cases (42.2%) of potentially unsubstantiated MGF use, with an estimated $5,638,216 of avoidable spending.

• There were 10,690 fully evaluable antiemetic cases. 35.8% were incorrectly classified for emetic risk by MD when compared to NCCN. The most impactful misclassifications occurred when the MD classified high or moderate but NCCN classified low or minimal risk (n=659). This resulted in 659 out of 10,690 cases (6.2%) of potentially unsubstantiated antiemetic use, with an estimated $738,406 of avoidable spending.

Conclusions

• MD-assigned FN and emetic risks are often inaccurate when compared to the NCCN risk classification, leading to unnecessary or unsubstantiated use of MGFs and antiemetics and potentially avoidable spending.

• Use of CDS and peer consultation based on NCCN Guidelines is an effective means of improving FN and emetic risk classification.

Drug Regimens Most Often Misclassified For FN Risk

• BCHOP (Rituximab + Cyclophosphamide + Doxorubicin + Vinricristine + Prednisone)*

• Gemcitabine + Carboplatin

• Gemcitabine + Cisplatin

• AC (Doxorubicin HCL + Cyclophosphamide) followed by weekly Paclitaxel

• Carboplatin + Etoposide*

• Cisplatin + Etoposide

• AC

• Gemcitabine + Paclitaxel (albumin-bound)

• FOLFIRI (Irinotecan + Leucovorin + Fluorouracil) + Bevacizumab

• Eribulin

• Doxorubicin liposomal

Drug Regimens Most Often Misclassified For Emetic Risk

• Gemcitabine + Paclitaxel (albumin-bound)

• Pambrolizumab, Atezolizumab, Nivolumab ± Ipilimumab

• Docetaxel ± steroid ± LH-RH analog

• Fluorouracil ± Leucovorin

• Eribulin

• Fluorouracil ± Mitomycin

• Paclitaxel (albumin-bound)

• Doxorubicin liposomal

• Pertuzumab ± Trastuzumab ± Docetaxel

• Bevacizumab ± Copeptabine