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Economic Evaluation of Octreotide LAR versus Lanreotide Depot in the Treatment of Metastatic Gastrointestinal Neuroendocrine Tumors

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Background: The long-acting somatostatin analogs octreotide LAR and lanreotide depot are recommended in National Comprehensive Cancer Network (NCCN) guidelines for patients with functional and nonfunctional metastatic GI-NETs. This study estimated the cost and effectiveness of treating metastatic GI-NETs with long-acting octreotide versus lanreotide from a US payer perspective.

Methods: An economic model was constructed to compare octreotide versus lanreotide among functional and nonfunctional patients with GI-NETs over 3-year and lifetime horizons. Costs, life-years and quality-adjusted life years (QALYs) were estimated in the model using an annual discount of 3%. A partitioned survival model was used, including stable, progressed, and death states; breakthrough symptoms were possible for functional patients. Efficacy inputs for octreotide were obtained from the PROMID trial. Lanreotide was assumed to be identical in efficacy to octreotide because of a lack of data comparing these drugs. This assumption is supported by the fact that the NCCN guidelines do not differentiate between these drugs. Utilities for stable and progressive disease were obtained from a published study estimating utilities for NET.

The costs for treatments, hospitalizations, physician visits, procedures, and end-of-life treatment were obtained from standard sources and the literature.

Results: The total life-years and QALYs were identical for the 2 drugs because of equal efficacy assumptions. Over 3 years, patients lived 1.8 years with stable disease, 0.8 years with progressive disease, and spent 0.2 years with breakthrough symptoms requiring additional treatment. The estimated QALYs were 1.8, and the overall costs were $247,820 and $221,709 for patients receiving lanreotide and octreotide, respectively. Overall, patients receiving octreotide lived 7.9 years on average and incurred $81,745 less in lifetime costs than patients receiving lanreotide.

Conclusions: For patients with metastatic GI-NETs, the cost of treatment with octreotide LAR was considerably lower than the corresponding cost for treatment with lanreotide depot over the 3-year and lifetime horizons.