Background

Approximately 140,000 new colorectal cancer (CRC) cases are expected in the US in 2014.1,2

5-year survival for metastatic colorectal cancer (mCRC) is 13%, despite the approval of multiple new chemotherapeutics and targeted agents over the past decade.2,3

Objective

This cost-effectiveness analysis uses FIRE-3 trial results to evaluate the clinical and economic tradeoffs associated with use of either FOLFIRI (irinotecan, SN3, and LV) or cetuximab (Gleevec) in the first-line treatment of KRAS wild-type (WT) mCRC patients in the United States.

Methods

Model Overview

Population: Adult US mCRC patients with previously untreated mCRC.

- Base case: FOLFIRI WT, EGFR-expressing mCRC
- Alternate scenario analysis: FOLFIRI WT, mCRC

Structure: Deterministic cost-effectiveness model

Time horizon: Lifetime

Outcome measures:

- Total (in all life years, LY; and quality adjusted life years, QALYs)
- Costs (in 2013 US$), including product, adverse events, and other direct medical costs
- Incremental cost-effectiveness ratios (ICERs, in $/QALY)

Model Structure

- First-line treatment
- Second-line treatment
- Cost-effectiveness analysis
- Base case
- Alternate scenario analysis

Results

- Table 1. Clinical Efficacy
- Table 4. 2nd-line Regimens Utilization and Costs

Conclusions

- Table 5. Results

References


One-way Sensitivity Analysis

- Results were most sensitive to first-line survival, treatment duration, and acquisition costs.

One-way Sensitivity Analyses

- All regimens include FOLFIRI bolus.

Probabilistic Sensitivity Analyses

- Cetuximab would be considered cost effective 80% of the time at a societal willingness to pay of $150,000/LY.

Total Regimen Costs (mS)

20,000

40,000

60,000

80,000

100,000

120,000

Incremental Effectiveness (M00)

-0102030405060708090100110120130140150160 Incremental Cost ($)

Figure 2. Probabilistic Sensitivity Analyses