THE COST-EFFECTIVENESS OF TIOTROPIUM VERSUS IPRATROPIUM IN A US VETERANS POPULATION DIAGNOSED WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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OBJECTIVE: This study models the cost-effectiveness of tiotropium versus ipratropium in a veterans population while incorporating information on medication compliance, disease severity, and history of health care utilization. METHODS: Electronic medical records from the Veterans Affairs (VA) Maryland Health Care System for 2004 were analyzed. Inclusion criteria: 1) filled prescription for ipratropium in 2004; 2) pulmonary function test (PFT) results; 3) PFT-based evidence of chronic obstructive pulmonary disease (COPD). Hospitalizations and emergency room (ER) visits for COPD exacerbations, COPD severity, and medication adherence were identified via chart review. The relative effectiveness of tiotropium was based on published clinical trial results. The incremental cost-effectiveness ratio (ICER) was calculated for 702 actual ipratropium patients and 702 modeled tiotropium patients for two effects: avoided exacerbations (ICERex) and avoided hospitalizations (ICERhos). Sensitivity analysis was also conducted. RESULTS: The ipratropium sample characteristics were: mean age of 69 years; 98 percent male; 21 percent Black; and 40 percent smokers. The distribution by severity was: mild (7%), moderate (42%), severe (40%) and very severe (11%). The total (exacerbation-related) ER visits and hospitalizations were 879 (171) and 462 (75), reflecting the exclusion of 40 ER and 9 hospital encounters following missed medications. The overall ICERex and ICERhos were $1318.38 and $4284.75. Tiotropium was dominant in very severe patients: ICERex of $−2099.00 and ICERhos of $−6297.00. Tiotropium was dominant (−$4215.46) for patients with one hospitalization and ranged from $433.29 to $117.27 for patients with one to three ER visits. The results were most sensitive to variation in tiotropium compliance, the cost of ipratropium, and the relative efficacy of tiotropium. CONCLUSIONS: Assuming VA efficacy similar to published estimates, tiotropium is more cost-effective in patients with more severe disease or a history of ER visits and is dominant when considering patients with very severe COPD or with a previous hospitalization.

RS3

PODIUM SESSION IV: CANCER

TREATMENTS FOR METASTATIC MELANOMA: SYNTHESE OF EVIDENCE FROM RANDOMIZED TRAILS

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OBJECTIVES: Advanced melanoma is usually fatal, with few effective treatments. Dacarbazine (DTIC) is considered standard therapy, but newer drugs have recently been marketed. The study objective was to quantify success rates (Complete + Partial response) of DTIC alone versus all other comparators in treating Stage-III (non-resectable) and Stage-IV melanoma of cutaneous origin. METHODS: We retrieved all head-to-head randomized controlled trials involving dacarbazine (DTIC) and other active drugs or multiple-drug combinations. Two reviewers searched the literature, and compared results, with differences resolved through consensus. Success rates were combined using random effects meta-analysis. Heterogeneity was tested using chi-square and publication bias using funnel plots and the Begg-Mazumdar test. Quality was assessed using Jadad’s method. RESULTS: We found 23 studies (3356 patients, 1966 DTIC, 1390 other treatments, average age 52.8 ± 4.3) with DTIC as standard treatment. Studies were generally of poor quality; 2 scored “high” quality and 21 scored “low” quality. Heterogeneity was non-significant (chi-square = 24.63, P = 0.032), suggesting combinability. Funnel plots were not abnormal and the Begg-Mazumdar test was non-significant (tau = −0.13, P = 0.38), indicating no publication bias. DTIC success rate was 14.9%. All other treatments combined were somewhat superior to DTIC alone (OR = 1.31, CI95%: 1.06–1.61). Average survival time was 7.5 ± 2.0 months for DTIC and 8.7 ± 3.6 months for all others. Adjunct therapy [DTIC+additional drug(s)] was supe-