ECONOMIC EVALUATION OF CASPOFUNGIN (CANDIDAS®) VERSUS LIPOSOMAL AMPHOTERICIN B FOR EMPIRICAL THERAPY OF SUSPECTED SYSTEMIC FUNGAL INFECTION IN THE GERMAN HOSPITAL SETTING

Kaskele P1, Tuschy S2, Wagner A3, Bannert C1, Cornely OA1, Glasmacher A2, Lütkes P3, Lipp HP5, Ullmann AJ7

1MSD Sharp & Dohme GmbH, Haar, Germany, 2Bonn University Hospital, Bonn, Germany, 3Augustburg Academic Hospital, Augustburg, Germany, 4Cologne University Hospital, Köln, Germany, 5Essen University Hospital, Essen, Germany, 6Tübingen University and University Hospital, Tübingen, Germany, 7Johannes Gutenberg-University Mainz, Mainz, Germany

OBJECTIVES: Caspofungin was non-inferior to liposomal amphotericin-B (L-AmB) in a recently conducted double-blind, randomized clinical trial (RCT) in 1095 hematology/oncology patients with persistent fever and neutropenia. Fewer patients developed nephrotoxicity with caspofungin than with L-AmB (2.6% vs. 11.5%, p < 0.001; Walsh et al., 2004). Based on the RCT data, cost and consequences of treatment with caspofungin versus L-AmB for empirical therapy of suspected systemic fungal infection were determined for the German hospital setting.

METHODS: Our model is based on: (i) RCT nephrotoxicity rates; (ii) prolonged length of hospital stay due to nephrotoxicity in hematology/oncology patients in Europe (5.3 days, accounting perspective, 95%CI 1.6;9.1, p = 0.004; Ullmann et al., 2006); and (iii) bottom-up data on direct cost of hematology/oncology stay per day. Bootstrapping and Monte-Carlo simulations were performed (SAS 9.1.3, WinBUGS 1.4.1). Calculations were based on patient-individualized doses per treatment episode per RCT treatment arm (Caspofungin 13 days; L-AmB 12.5 days; 70 kg patient), on both, official German price list, and German high-user hospital antifungal acquisition cost.

RESULTS: The number needed to treat for one patient to be harmed due to nephrotoxicity for L-AmB versus caspofungin was 12 (95%CI 8;17). The nephrotoxicity-related prolongation of hospital stay per patient was 0.48 days (95%CI 0.14;0.88). Based on official list prices, caspofungin was cost-saving compared to L-AmB. Based on high-user hospital pharmacy acquisition cost and cost from longer stay in hospital due to L-AmB nephrotoxicity, caspofungin was cost-saving at hospital cost per day of ≥670, and ≥1060, respectively, with and without “Zusatzentgelt” (2006), a partial compensation German hospital can apply for to cover cost of caspofungin and L-AmB. Average LOS in DC and HC states was 11 days. 35% of HC patients needed hospice admission with an average LOS of 38 days. Common procedures include paracentesis (60%), sclerotherapy (50%), and TIPS (30%) in the DC state, and paracentesis (70%), radiofrequency ablation (15%), and ethanol injection (10%) in HC. CONCLUSIONS: RU and costs increase with disease progression; costs for the HC state are more than 30 times those for the CHB stage.

CHRONIC HEPATITIS B (CHB) MANAGEMENT COSTS IN SWEDEN

De Cock E1, Dale PL1, Cerri KH2, Zammit D1, Flamholc L1


OBJECTIVE: Chronic Hepatitis B (CHB) can lead to cirrhosis and hepatocellular carcinoma. This study aims to estimate resource utilisation (RU) and costs associated with CHB management in Sweden, from a health-system perspective.

METHODS: Medical management patterns were estimated for: Chronic Hepatitis B (CHB), Compensated Cirrhosis (CC), Decompensated Cirrhosis (DC), and Hepatocellular Carcinoma (HC). Resources considered were physician visits, drug therapy, lab tests, diagnostic/therapeutic procedures and hospitalisation. RU data were obtained from a Delphi panel of 5 hospital specialists. Complications considered for DC were: ascites, variceal haemorrhage, hepatic encephalopathy, and bacterial peritonitis. For HC, RU was estimated for the first year post identification of the cancer. Based on RU, 2005 direct costs were estimated per health state. RESULTS: Resource utilisation increased across disease states, reflecting disease progression. The average annual cost (range) of each state was: CHB: SEK 8001 (SEK 1891—SEK 17,011); CC: SEK 34,649 (SEK 7378—SEK 93,185); DC: SEK 135,783 (SEK 20,171—SEK 442,783); HC: SEK 280,009 (SEK 52,759—SEK 619,031); Average LT cost was SEK 668,027. Hospitalisation is a key cost driver in DC and HC states. No GP visits were reported. Hospital admissions were unneeded in the CHB state. For CC, 5.8% of patients needed 1.25 admissions (average 0.08) and in DC, 68% needed 2 admissions (average 1.4). In HC state, all patients were admitted on average 3.4 times. Average LOS in DC and HC states was 11 days. 35% of HC patients needed hospice admission with an average LOS of 38 days. Common procedures include paracentesis (60%), sclerotherapy (50%), and TIPS (30%) in the DC state, and paracentesis (70%), radiofrequency ablation (15%), and ethanol injection (10%) in HC. CONCLUSIONS: RU and costs increase with disease progression; costs for the HC state are more than 30 times those for the CHB stage.