switch (OR=1.6, 1.2-2.1) and discontinuation (OR =1.8, 1.5-2.1). Heart failure was associated with augmentation (OR=1.6, 1.0-2.5) and discontinuation (OR=1.7, 1.2-2.4). Age was inversely associated with augmentation and discontinuation and time since diabetes diagnosis was also inversely associated with augmentation. **CONCLUSIONS:** HbA1c is a clear driver of treatment regimen changes although there are other factors also independently related to change such as age, heart failure and baseline OAD.

**PDB79**

**TREATMENT PATTERNS OF ORAL ANTI-DIABETIC DRUGS IN THE UK**

Magura A, Mitchell R, Giraldo P1, Lopez A2, Rios E3, Gonzalez-Grande I4, Roset M5, Castro-Gomez A6, de la Serna J1, Caballero F1

**OBJECTIVES:** In the UK, Oral Anti-Diabetic drugs “OAD” are administered to control hyperglycaemia in type 2 diabetes when HbA1c exceeds 48mmol/mol. Treatment guidelines determine initial OAD and subsequent changes in regimen depend on HbA1c response. Hence, the aim of this study is to quantify OAD treatment patterns. **METHODS:** All patients who initiated an OAD (except rosiglitazone) with first line baseline OAD and who reported to the AERS during the study period. About 4% and 1% of the reports were for prescribed with caution to patients with cardiovascular risk factors. Regulatory authorities should define cardiovascular safety surveillance requirements for anti-angiogenic agents at postmarketing stages of products’ lifecycle. An alternative to

**SYSTEMIC DISEORDS/CONDITIONS - Clinical Outcomes Studies**

**PSY1**

**CARDBVASCULAR AND CONGENITAL SAFETY EVALUATION OF ANTIOBESITY AGENTS, INCLUDING TOPIRAMATE: A PHARMACOVIGILANCE ANALYSIS OF THE ADVERSE EVENT REPORTING SYSTEM**

Ali AK, Maguire A1, Mitchell B2

**OBJECTIVES:** A pharmacovigilance study is warranted to test the generated hypotheses.

**RESULTS:** Of 63060 patients commencing OAD, 88% started on metformin and 8% on glitazone both as monotherapy. Hence, all other OAD regimens comprised only 4% of all patients. Compared to metformin, the glitazone patient group was older (mean age 67 vs. 61 years) and had higher median baseline HbA1c (70 (IQR 60-95) vs. 64 (IQR 56-74) mmol/mol). The rate of discontinuation of baseline OAD at one year was 32% whilst the discontinuation of all OAD was 26%. It was rare for discontinuation of OAD to be permanent; only 3.3% of patients who discontinued in the 1st 12 months did not restart during 4 years. The rate of switching was 6.4% and the rate of augmentation was 15% over the first year. These rates differed according to baseline OAD. Compared to metformin the discontinuation rate for meformin was higher (56%, OR = 1.6; 95%CI 1.2-2.1) and discontinuation (23%, 1.3; 95%CI 1.2-2.4). Age was associated with discontinuation (OR = 1.6; 95%CI 1.0-2.5) and discontinuation (OR = 2.3; 95%CI 1.5-3.3). It was rare for discontinuation of OAD to be permanent; only 3.3% of patients who discontinued in the 1st 12 months did not restart during 4 years. The rate of switching was 6.4% and the rate of augmentation was 15% over the first year. These rates differed according to baseline OAD. Compared to metformin the discontinuation rate for meformin was higher (56%, OR = 1.6; 95%CI 1.2-2.1) and discontinuation (23%, 1.3; 95%CI 1.2-2.4). Age was associated with discontinuation (OR = 1.6; 95%CI 1.0-2.5) and discontinuation (OR = 2.3; 95%CI 1.5-3.3).

**CONCLUSIONS:** Most patients initiated on meformin, whilst for those initiating on glitazone, discontinuation, switching, augmentation and insulin initiation were all higher. Patients who most discontinued OAD subsequently restarted.

**PSY3**

**DISEASE ACTIVITY INDICES (DAIS) IN SYSTEMIC LUPUS ERYTHEMATOSUS (SLE)**

Wyrwich K1, Winnette K2, Oglesby A3, Narayanam S4

**OBJECTIVES:** View the development and properties of systemic lupus erythematosus (SLE) disease activity indices (DAIs) used in clinical trials, observational studies, and case studies. **METHODS:** A structured search was conducted to identify published articles in 2005-2011 through key literature databases (EMBASE and MEDLINE/PUBMED). Conference abstracts from targeted rheumatology, outcomes research and quality-of-life scientific meetings in 2009-2011 were included. SLE therapeutic trials within the past five years were identified through the ClinicalTrials.gov database. **RESULTS:** The search resulted in more than 15 different DAIs, with the most recently used being the British Isles Lupus Assessment Group Scale (BILAG), European Consensus Lupus Activity Measure (ECLAM), Systemic Lupus Erythematosus Disease Activity Index (SLEDAI), SLEDAI-2K, Safety of Dosing in Lupus Erythematosus National-SLEDAI (SELENA-SLEDAI), and SLEDAI-2K-50 (SRI-50). The number of items (24-97), time to complete (5-20 mins; >20 mins for some tools in case of less physician training/familiarity), scoring (no global score or 0-100), organs/systems assessed (8-24), and subscales observed in these measures varied widely. These eight DAIs all demonstrated substantial inter-rater reliability (ICC = 0.61-1.0) and had moderate to strong correlations with each other (r = 0.43-0.97). Measured in all but BILAG were weighted. All of these tools require periodic calibration/rating and training, and assessment tools to complete these tools, further investigation is needed to assess their feasibility for use outside of the research arena in routine clinical practice for optimal SLE management.

**PSY4**

**LENALIDOMIDE OR BORTEZOMIB FOR THE TREATMENT OF RELAPSED/REFRACTORY MULTIPLE MYELOMA (MM): A COMPARATIVE EFFECTIVENESS ANALYSIS USING INDIRECT STATISTICAL TECHNIQUES**

Kaura S1, Dranitsaris G2

**OBJECTIVES:** Lenalidomide (LEN) and bortezomib (BORT) are both effective for the treatment of relapsed/refractory MM. The former is administered 25 mg/day orally on days 1-21 of repeated 28-day cycles. The latter as a 1.3 mg/m2 intravenous dose on days 1, 4, 8 and 11 for eight, three week cycles. Currently, there are no data from head to head randomized trials comparing LEN and BORT. In the absence of such data, an indirect comparison between LEN and BORT was performed in the relapsed/refractory MM setting. Such an analysis was feasible because comparable controls were used in the pivotal randomized trials and patients had similar baseline characteristics. **METHODS:** Three pivotal randomized trials with LEN (n = 2) and BORT (n = 1) in the relapsed/refractory setting were identified. Patients within each trial had similar disease characteristics. Data in terms of response rate (RR), time to progression (TTP) and overall survival (OS) were extracted from the pivotal trials. An indirect statistical comparison between LEN and BORT was then performed on the endpoints using the method of Detsky et al. which maintains the benefits of randomization on the magnitude of benefit.

**RESULTS:** The analysis identified significant differences in efficacy between these drugs. Patients treated with LEN were significantly more likely to achieve a disease response (OR = 1.50; 95%CI: 1.15 - 1.92) and to have a prolongation in TTP (HR = 0.64; 95%CI: 0.44 - 0.91). The analysis also identified a trend for an OS benefit in patients receiving treatment with LEN over BORT (HR = 0.71; 95%CI: 0.46 - 1.11).

**CONCLUSIONS:**

**A508**

Keeping in mind the caveats associated with cross trial comparisons, the analysis suggested increased effectiveness of LEN over BCY in MM patients with refractory/refractory T-cell lymphoma. These findings, along with their route of administration and established safety profile suggest that LEN should be the preferred agent for refractory/refractory MM.

**PSYS COMPARING BRENTUXIMAB VEDOTIN OVERALL SURVIVAL DATA TO STANDARD OF CARE IN PATIENTS WITH RELAPSED/REFRACTORY HODGKIN LYMPHOMA (HL) POST-AUTOLOGOUS STEM CELL TRANSPLANT (ASCT)**

Woods B1, Thompson J2, Barcena L1, Liu Y2, Huang H2, Martinez C2
1Oxford Outcomes, Oxford, UK, 2Millennium Pharmaceuticals, Inc., Cambridge, MA, USA

**OBJECTIVES:** Health care decision makers require estimates of the incremental health benefit of any new technology relative to existing treatments. For treatments targeting small patient subgroups, randomised controlled trial (RCT) data is often unavailable requiring alternative methods to estimate comparative effectiveness. We illustrate two approaches, using the example of brentuximab vedotin.

**METHODS:** Brentuximab vedotin has been studied in HL patients relapsed following ASCT (SG035-0003, Younes et al, JCO 2012). We compare 2-year survival data from the 0003 study to: (1) A systematic review in ASCT failures – carried out according to standard methods; no restrictions on study design/treatment. Percentages of patients alive at six-monthly intervals for up to five years were extracted. Comparative graphs were produced, with proportions of patients alive in each study versus time, each point sized to reflect number of patients/study (2) A large observational study, adjusted to reflect prognosis in 0003 – Martinez 2010, reported OS according to whether patients had 0, 1 or ≥ 2 risk factors. Results were reported for chemotherapy+/radiotherapy and allogeneic SCT. Survival curves for the chemotherapy+patients were re-weighted to reflect the proportion of patients with 0, 1 or ≥ 2 risk factors in the 0003 trial. RESULTS: Thirty-one studies reported retrievable OS for radiotherapy, chemotherapy, palliative care, or allogeneic SCT or ASCT. OS for brentuximab vedotin was higher than or very similar to all but five small (n ≤ 50) RCTs. The adjusted Martinez 2010 comparison estimated 2-year OS of 48% and 65% for chemotherapy and radiotherapy, chemotherapy, palliative care, or allogeneic SCT or ASCT. The adjusted OS for potential confounders.

**CONCLUSIONS:**: The nilotinib NNT was 51 lower than the imatinib NNT in ENSETn (1.8 ± 3.7) and the dasatinib NNT was 39 lower than the imatinib NNT in DASS2 (2.3 ± 3.6). Annual cost of nilotinib including cost of AE management costs was estimated in the patient cohort treated at Evangelismos Hospital and multiplied by the incidence reported in the trials. RESULTS: The nilotinib NNT was 20% less than the imatinib NNT or ENSETn (1.8 ± 3.7) and the dasatinib NNT was 20% lower than the imatinib NNT in DASS2 (2.3 ± 3.6). Annual cost of nilotinib including cost of AE management costs was estimated in the patient cohort treated at Evangelismos Hospital and multiplied by the incidence reported in the trials. RESULTS: The nilotinib NNT was 20% less than the imatinib NNT or ENSETn (1.8 ± 3.7) and the dasatinib NNT was 20% lower than the imatinib NNT in DASS2 (2.3 ± 3.6). Annual cost of nilotinib including cost of AE management costs was estimated in the patient cohort treated at Evangelismos Hospital and multiplied by the incidence reported in the trials.

**SOCIETAL BURDEN ASSOCIATED WITH NEUROPATHIC PAIN IN EUROPE**

Hatzikou M1, Geotona M2, Gignates S3, Harhalakis N2
1Novartis Hellas, Metamorfosi, Greece, 2University of Peloponnese, Korinth, Greece, 3Euanmillhos Hospital, Athens, Greece

**OBJECTIVES:**: NNT can be a useful approach to compare treatments in the absence of direct comparative clinical trials. Imatinib, nilotinib and dasatinib are approved as first-line treatments for patients newly diagnosed with Philadelphia chromosome-positive chronic myeloid leukemia CP0. The primary objective of this analysis is to compare these treatments with regards to: (1) the NNT to achieve one MMR by 12 months (2) the cost of achieving one MMR and the annual cost treatment including of adverse events (AEs) from the perspective of the Greek National Health System (NHS). METHODS: MMR and AE rates were taken from the CML-CP frontline trials – DASS1 (dasatinib 100mg QD vs. imatinib 400mg QD) and ENSETn (nilotinib 300mg BID vs imatinib 400mg QD). The NNT was calculated as the inverse of the MMR rate by 12 months (1/MMR). AE management costs were estimated in the patient received at Evangelismos Hospital and multiplied by the incidence reported in the trials. RESULTS: The nilotinib NNT was 20% less than the imatinib NNT or ENSETn (1.8 ± 3.7) and the dasatinib NNT was 20% lower than the imatinib NNT in DASS2 (2.3 ± 3.6). Annual cost of nilotinib including cost of AE management costs was estimated in the patient cohort treated at Evangelismos Hospital and multiplied by the incidence reported in the trials.