

## PCV53

**A PHARMACOECONOMIC ANALYSIS OF PROPHYLAXIS THERAPIES AND TREATMENT OF VENOUS THROMBOEMBOLISM (VTE) IN MEXICAN PATIENTS WITH CANCER**Arreola-Ornelas H<sup>1</sup>, Rosado-Buzzo AA<sup>2</sup>, Garcia-Mollinedo MDL<sup>2</sup>, Dorantes-Aguilar J<sup>1</sup>, Mould-Quevedo J<sup>3</sup>, Davila-Loaiza G<sup>3</sup><sup>1</sup>Fundación Mexicana para la Salud, Mexico City, Mexico, <sup>2</sup>Links & Links S.A. de C.V., Mexico City, Mexico, <sup>3</sup>Pfizer Mexico, Mexico City, Mexico

**OBJECTIVES:** An adverse consequence of cancer is venous thromboembolism (VTE), manifesting as either deep vein thrombosis (DVT) or pulmonary embolism (PE). Compared with non-cancer patients, the incidence of VTE has been increasing in cancer patients over the past ten years and the risk of recurrent DVT and subsequent PE remains elevated. The aim of this study was to assess the cost-effectiveness of anticoagulant therapies to prevent VTE in Mexican patients with cancer from the payer's perspective. **METHODS:** A six-state Markov model was performed to estimate health and economic consequences during a time horizon of one year (1-week cycles). Effectiveness measures were reduction in recurrent hospitalizations, reduced PE and DVT events; and avoidance of deaths. Markov transition probabilities were obtained from a meta-analysis employing international published literature. Comparators employed were warfarin (5 mg/day); dalteparin (2500, 5000, 7500 IU/day); enoxaparin (20, 40, 60 mg/day); nadroparin (5700 IU/day); unfractionated heparin plus warfarin (10000, 30000, 42000 IU/day+5 mg/day); acenocoumarol (4 mg/day); and no prophylaxis intervention. Resource use and costs were collected from clinical records (n = 7000) from Social Security Mexican Institute (IMSS) hospitals and official institutional databases. The model was validated. Bootstrapping techniques were used to develop probabilistic sensitivity analyses. Acceptability curves were constructed. **RESULTS:** Incidence of PE and DVT were significant lower for patients treated with dalteparin (p < 0.05). Regarding the reduction of DVT events, dalteparin 2500, 5000 and 7000 IU/day showed an Incremental cost-effectiveness ratio [CI95%] of US\$45.81 [US\$44.9–US\$46.8]; US\$40.9 [US\$40.0–US\$41.7] and US\$37.8 [US\$37.0–US\$38.5] against warfarin (gold-standard), respectively. Nevertheless, enoxaparin in all its presentations and no prophylaxis intervention alternatives were dominated by dalteparin. Dalteparin showed the lowest number of deaths and hospitalization re-admissions (for DVT and PE) when compared to other anticoagulant therapies (p < 0.05) and showed a trend toward significant reduction of institutional costs in the short term. Second-order Monte Carlo sensitivity analyses showed the robustness of these results (ellipse-method). **CONCLUSIONS:** Dalteparin demonstrated to be a cost-effective anticoagulant therapy to reduce incidence of PE and DVT events, deaths and recurrent hospitalizations in patients with cancer.

## PCV54

**COST-EFFECTIVENESS OF DABIGATRAN ETEXILATE 150 MG FOR THE PREVENTION OF VENOUS THROMBOEMBOLISM IN PATIENTS AGED OVER 75 YEARS UNDERGOING TOTAL HIP OR KNEE ARTHROPLASTY**Wolowacz S<sup>1</sup>, Roskell N<sup>1</sup>, Plumb J<sup>2</sup>, Clemens A<sup>2</sup>, Robinson P<sup>3</sup>, Dolan G<sup>4</sup>, Brenkel I<sup>5</sup><sup>1</sup>RTI Health Solutions, Manchester, UK, <sup>2</sup>Boehringer Ingelheim GmbH, Ingelheim am Rhein, Germany, <sup>3</sup>Boehringer Ingelheim Ltd, Bracknell, UK, <sup>4</sup>Nottingham University Hospitals, Nottingham, UK, <sup>5</sup>Fife Acute Hospitals NHS Trust, Dunfermline, UK

**OBJECTIVES:** Dabigatran etexilate (DBG) is a new direct thrombin inhibitor which is administered orally at a fixed dose. EMEA has approved DBG at a standard dose of 220 mg once daily (od), and at a lower dose of 150 mg od for patients aged over 75. Recent economic analyses for the UK have demonstrated that DBG 220 mg od is cost-saving when compared with the commonly used agent, enoxaparin 40 mg od, with comparable efficacy and safety. This analysis investigates the cost-effectiveness of DBG 150 mg od for the prevention of venous thromboembolism (VTE) in the subset of patients aged over 75 undergoing total hip arthroplasty (THA) or total knee arthroplasty (TKA) from the perspective of the UK National Health Service. **METHODS:** There was a comparison of DBG 150 mg od to enoxaparin 40 mg od using a decision model. Relative risks for VTE and bleeding events specific to patients aged over 75 were derived from sub-group analyses of the phase III DBG trials, RE-MODEL and RE-NOVATE. Probabilities of recurrent VTE and post-thrombotic syndrome were estimated from published longitudinal studies. **RESULTS:** DBG was less costly than enoxaparin in TKR and substantially less so in THR, primarily due to differences in administration costs. VTE and bleeding rates were similar for DBG and enoxaparin; the probability of cost-effectiveness was 89% in TKR and 99% in THR at a willingness-to-pay threshold of ≤20,000 per quality-adjusted life-year. These results were robust across a range of sensitivity analyses. **CONCLUSIONS:** Thromboprophylaxis with DBG 150 mg od in patients aged over 75 years is cost saving compared to enoxaparin 40 mg od, with comparable efficacy and safety.

## PCV55

**COST-EFFECTIVENESS OF VALSARTAN IN JAPAN: RESULTS FROM THE JIKEI HEART STUDY**Shimizu M<sup>1</sup>, Crawford B<sup>2</sup>, Ikewaki K<sup>1</sup>, Taniguchi I<sup>1</sup>, Kamae I<sup>3</sup>, Dahloh B<sup>4</sup>, Drost P<sup>5</sup>, Mochizuki S<sup>1</sup><sup>1</sup>Jikei University School of Medicine, Tokyo, Tokyo, Japan, <sup>2</sup>Mapi Values, Tokyo, Meguro, Japan,<sup>3</sup>Keio University Graduate School of Health Management, Fujisawa, Kanagawa, Japan,<sup>4</sup>Sahlgrenska University Hospital, Gothenburg, Gothenburg, Sweden, <sup>5</sup>Mapi Values, AX Houten, AX Houten, Netherlands

**OBJECTIVES:** The Jikei Heart Study (n = 3081) demonstrated that the angiotensin II receptor blocker (ARB) valsartan significantly reduced the incidence of the primary composite endpoint in Japanese patients previously receiving standard non-ARB

therapy. The primary end point was a composite of CV morbidity/mortality including stroke or transient ischemic attack, hospitalization for heart failure or angina, dissecting aneurysm of the aorta, lower-limb arterial obstruction, doubling of serum creatinine, and transition to dialysis. The purpose of this study was to determine whether valsartan is cost-effective based on data from the Jikei Heart Study. **METHODS:** A probabilistic model assessed the cost-effectiveness of valsartan vs. standard therapy in a Japanese patient population. Cost-effectiveness analyses incorporated life-years gained and quality-adjusted-life-years gained to adjust for impairment of quality-of-life. Conservative “cost accounting” of the Jikei Heart Study was employed to validate model results—direct medical costs associated with in- and out-patient treatment of patients. A probabilistic sensitivity analysis assessed the robustness of the results. **RESULTS:** Expected total costs for the non-ARB arm were ¥365,961 per patient for three years compared to ¥365,151 per patient for three years for valsartan—a cost-savings of ¥270 per patient per year. Valsartan would also extend quality adjusted life years (QALY) by 0.09 over non-ARB treatment in the 3-year time horizon. The cost savings and increased QALYs lead to a –¥85,215 per QALY gained, a dominant strategy. Probabilistic sensitivity analyses demonstrated robustness of the economic evaluation. **CONCLUSIONS:** Valsartan is cost-effective in Japanese patients with high blood pressure, coronary heart disease and/or heart failure, who previously received standard care. Including costs associated with National Health Insurance sickness allowance for extended disability, valsartan is both more effective and less costly than non-ARB treatment.

## PCV56

**COST-EFFECTIVENESS OF DABIGATRAN ETEXILATE 150 MG FOR THE PREVENTION OF VENOUS THROMBOEMBOLISM IN PATIENTS UNDERGOING TOTAL HIP OR KNEE ARTHROPLASTY THAT HAVE MODERATE IMPAIRMENT OF RENAL FUNCTION**Wolowacz S<sup>1</sup>, Roskell N<sup>1</sup>, Plumb J<sup>2</sup>, Clemens A<sup>2</sup>, Robinson P<sup>3</sup>, Dolan G<sup>4</sup>, Brenkel I<sup>5</sup><sup>1</sup>RTI Health Solutions, Manchester, UK, <sup>2</sup>Boehringer Ingelheim GmbH, Ingelheim am Rhein, Germany, <sup>3</sup>Boehringer Ingelheim Ltd, Bracknell, UK, <sup>4</sup>Nottingham University Hospitals, Nottingham, UK, <sup>5</sup>Fife Acute Hospitals NHS Trust, Dunfermline, UK

**OBJECTIVES:** Dabigatran etexilate (DBG) is a new direct thrombin inhibitor which is administered orally at a fixed dose. Patients with renal impairment are thought to be at higher risk of bleeding during thromboprophylaxis, and lower doses are recommended in this population. EMEA has approved DBG at a standard dose of 220 mg once daily (od), and at a lower dose of 150 mg od for patients with moderate renal impairment. Recent economic analyses for the UK have demonstrated that DBG 220 mg od is cost-saving when compared with the commonly used agent, enoxaparin 40 mg od, with comparable efficacy and safety. This analysis investigates the cost-effectiveness of DBG 150 mg od for the prevention of venous thromboembolism (VTE) in patients with moderate renal impairment undergoing total hip arthroplasty (THA) or total knee arthroplasty (TKA) from the perspective of the UK National Health Service. **METHODS:** DBG 150 mg od was compared to enoxaparin 40 mg od using a decision model. Relative risks for VTE and bleed events specific to patients with moderate renal impairment (creatinine clearance ≥30 and <50 mL/min) were derived from sub-group analyses of the phase III DBG trials, RE-MODEL and RE-NOVATE. Probabilities of recurrent VTE and post-thrombotic syndrome were estimated from published longitudinal studies. **RESULTS:** DBG was less costly than enoxaparin in TKR and substantially less so in THR, primarily due to differences in administration costs. VTE and bleeding rates were similar for DBG and enoxaparin; the probability of cost-effectiveness was 75% in TKR and 97% in THR at a willingness-to-pay threshold of £20,000 per quality-adjusted life-year. These results were robust across a range of sensitivity analyses. **CONCLUSIONS:** Thromboprophylaxis with DBG 150 mg od in patients with moderate renal impairment is cost saving compared to enoxaparin 40 mg od, with comparable efficacy and safety.

## PCV57

**HEALTH ECONOMIC EVALUATION OF CONTRAST MEDIA IN CORONAROGRAPHY: ISO-OSMOLAR IODIXANOL VS. LOW-OSMOLAR MEDIA**Vorobiev P<sup>1</sup>, Lesnicheva M<sup>2</sup>, Tyrsin OY<sup>3</sup><sup>1</sup>Moscow Medical Academy named after I.M. Sechenov, Moscow, Russia, <sup>2</sup>Russian Society For Pharmacoeconomics and Outcomes Research, Moscow, Russia, <sup>3</sup>Nycomed Russia-CIS, Moscow, Russia

**OBJECTIVES:** To perform health economic evaluation of iso-osmolar Iodixanol vs. low-osmolar contrast media in patients undergoing coronarography. **METHODS:** The decision tree modeling was performed using literature data on dosage, efficacy and safety. Iopromide as one of the commonly used low-osmolar contrast in Russia was chosen for comparison. Efficacy of Iodixanol and Iopromide was equal, so only safety issues were taken into consideration. Costs of procedure including side effects management were calculated using experts interview in Moscow clinics and hospital cost estimates. Cost-minimization analysis (CMA) from health care system perspective was performed. **RESULTS:** According to McCullough PA, et al. (2006) the rate of contrast-induced nephropathy (CIN) was 1.4% for Iodixanol and 3.5% for Iopromide in common population, 2.8% and 8.4% in patients with chronic kidney disease (CKD), and 3.5% and 15.5% in patients with diabetes mellitus combined with CKD. Rihal CS and colleagues (2002) showed that CIN patients required haemodialysis in 7.9%. They demonstrated 22% mortality compared to 1.4% of patients with normal renal function. Hypotension rate was 20.1% and 9.1%, acute heart failure was 11.4% and 3.1%, cardiac arrest was 11.4% and 1.5%, respiratory distress-syndrome was 9.4% and 0.7%, and myocardial infarction was 3.9% and 0.9% respectively.