

PMD67

THE COST EFFECTIVENESS OF PLATELET RICH PLASMA VERSUS CORTICOSTEROIDS IN THE TREATMENT OF LATERAL EPICONDYLITIS

Peerbooms JC¹, Gosens T², Poole C³, Jorgensen E⁴¹Albert Schweitzer hospital, Dordrecht, The Netherlands, ²St. Elisabeth Hospital, Tilburg, The Netherlands, ³Cardiff University, Cardiff, UK, ⁴Biomet Nordic, Oslo, Norway

OBJECTIVES: To analyze the cost effectiveness of platelet rich plasma versus corticosteroids in the treatment of lateral epicondylitis in a Norwegian setting. **METHODS:** A probabilistic Markov model was developed in Microsoft Excel, based on clinical data from two papers reporting results from a randomized double blind clinical trial comparing the effect of platelet rich plasma (L-PRP, n=49) to corticosteroids (CCS, n=51) as treatment of lateral epicondylitis (Peerbooms et al 2010, Gosens et al 2011). The primary outcome of these papers, were Disability of Arm, Shoulder and Hand (DASH) and the Numerical Pain Visual Analogue Scale (NPRS-VAS). The study which was conducted in The Netherlands, showed statistically significant differences on the visual analogue scale and the DASH in favor of L-PRP after 6, 12 and 24 months. In order to make a cost utility analysis, the VAS-scores were mapped to EQ-5D, using the method suggested in Dixon et al 2011. In this study the derived utility values for a series of EQ-5D health states replaced the pain value with the NPRSVAS, thereby allowing a greater range of pain intensities to be captured and included in economic analyses. This raises an issue regarding transferability of QALY-values. Nord E. 1991 concludes that QALY-values elicited in Norway, The Netherlands, England or Sweden can be used for medical decision making purposes in any of the other three countries. **RESULTS:** The results show an incremental cost effectiveness ratio of € 5 000 per QALY. This is well within what is considered cost effective in Norway. The probabilistic analysis demonstrates that the probability of L-PRP being the cost effective alternative is as high as 99% even when the willingness to pay for additional QALY is as low as € 13 000. **CONCLUSIONS:** Compared to corticosteroids, treating lateral epicondylitis with L-PRP represents the cost effective treatment strategy in Norway.

PMD68

COST-EFFECTIVENESS OF SACRAL NEUROMODULATION IN THE TREATMENT OF IDIOPATHIC WET REFRACTORY OVERACTIVE BLADDER IN ITALY

D'Ausilio A¹, Bertapelle P², Vottero M², Del popolo G³, Giannantoni A⁴, Ostaro E⁵, Spinelli M⁶¹HEAD Consulting, Milan, Italy, Italy, ²Azienda Ospedaliera CTO/Maria Adelaide, Torino, Italy, Italy, ³Azienda Ospedaliero-Universitaria Careggi, Firenze, Italy, Italy, ⁴Università di Perugia, Perugia, Italy, Italy, ⁵Azienda Ospedaliera Santa Maria degli Angeli, Pordenone, Italy, Italy, ⁶Ospedale Niguarda Ca' Granda, Milano, Italy, Italy

OBJECTIVES: The purpose of this study was to estimate the cost-effectiveness of two therapeutic strategies starting either with Sacral Neuromodulation (SNM) or Botulinum Neurotoxin A (BTX-A) in the treatment of overactive bladder (OAB) wet in Italy. **METHODS:** A 10-year decisional model was developed to assess costs and outcomes (Quality-Adjusted Life Years – QALYs – gained) associated with the two pathways from the perspective of the Italian National Healthcare System (INHS). Clinical inputs were derived from the literature review and validated by key clinicians in Italy. Unit costs were derived from public sources. Costs for hospital procedures and inpatient stay were derived from one of the centres involved in the study to reflect real costs incurred for SNM implant. Univariate sensitivity analyses (DSA) were conducted to determine whether results were insensitive to variations in uncertain parameters. Probabilistic sensitivity analyses (PSA) were performed to derive cost-effectiveness acceptability curves. **RESULTS:** Preliminary results showed that at 10 years SNM is a cost-effective strategy. Cumulative costs were €33,897 and €33,572 while cumulative QALYs were 7.55 and 6.80 for SNM and BTX-A respectively. A 4% decrease of incontinence episodes was also observed for SNM compared with BTX-A. DSA demonstrated the robustness of the results. PSA results suggested that 99.9% of the 1000 Monte Carlo iterations fell within a €30,000 cost-effectiveness threshold considered acceptable for a marginal unit of effectiveness. **CONCLUSIONS:** A therapeutic strategy starting with SNM compared to one starting with BTX for patients with idiopathic OAB-wet is cost-effective for the Italian INHS.

PMD69

COST-EFFECTIVENESS OF CATHETER ABLATION VERSUS ANTIARRHYTHMIC DRUG THERAPY FOR THE TREATMENT OF ATRIAL FIBRILLATION IN THE UK

Rizzo JA¹, Mallow P², Cirrincione A³¹Stony Brook University, Port Jefferson, NY, USA, ²S2 Statistical Solutions, Cincinnati, OH, USA, ³Biosense Webster, Inc, Diamond Bar, CA, Belgium

OBJECTIVES: Atrial fibrillation (AF) is a chronic, progressive disease characterized by uncoordinated atrial activation involving a rapid and irregular heartbeat. Its prevalence has been increasing worldwide. Antiarrhythmic drug therapy is a commonly-used treatment for paroxysmal AF, and catheter ablation has become an important treatment alternative. The purpose of this study was to assess the cost-effectiveness of catheter ablation compared to antiarrhythmic drug (AAD) therapy for the treatment of paroxysmal AF in the UK. **METHODS:** A Markov simulation model was developed for a hypothetical cohort of 55-year-old patients with drug-refractory paroxysmal AF and a low stroke risk. The model treatment arms were catheter ablation and AAD mono-therapy. The model was created to assess the costs and quality-adjusted life-years over a lifetime horizon. Clinical efficacy of catheter ablation and AAD therapy were modeled based on the results of a recently published randomized controlled trial (Wilber et al., 2010). Utilities and other transition probabilities were drawn from the published literature. Costs were specific to the UK. **RESULTS:** The incremental cost-effectiveness ratio for catheter ablation versus AAD therapy ranged from £12,500 to £15,300 per quality-adjusted life-year. Over a lifetime horizon, the quality-adjusted life expectancy ranged from 11.75 to

12.20 years for catheter ablation compared to 11.00 to 11.35 years for AAD therapy. Model results were most sensitive to ablation costs, probability of successful ablation treatment, probability of revision to AF, and probability of successful AAD therapy. **CONCLUSIONS:** Catheter ablation appears to be cost-effective compared to AAD therapy among patients who had drug refractory paroxysmal AF in the UK population when using a cost-effectiveness threshold of £20,000.

PMD70

A FIVE-YEAR MARKOV MODEL EVALUATING THE COST-UTILITY OF NASHA/DX FOR THE TREATMENT OF FECAL INCONTINENCE: A UNITED STATES PERSPECTIVE

Wexner SD¹, Bernstein M², Purdy C³, Magar R⁴¹Cleveland Clinic Florida, Weston, FL, USA, ²NYU Langone Medical Center, New York, NY, USA, ³AHRM Inc., Buffalo, NY, USA, ⁴AHRM Inc., Raleigh, NC, USA

OBJECTIVES: To estimate the costs and outcomes associated with the treatment of NASHA/Dx (Solesta®) for fecal incontinence (FI) compared with sacral nerve stimulation (InterStim®) and anal sphincteroplasty. **METHODS:** A five-year Markov model was developed to analyze the cost-utility associated with: 1) NASHA/Dx; 2) sacral nerve stimulation (SNS); and 3) anal sphincteroplasty (AS) after failure of conservative therapy. Costs and outcomes were based on the published literature and other public sources. Costs and QALYs were discounted at a rate of 3% annually. Probability sensitivity analyses were used to estimate the robustness of the base case and scenarios. The probability and utility variables were modeled as beta-distributions; costs were modeled as lognormal distributions. One-way sensitivity analyses were used to evaluate the impact of variations related to key cost variables. A willingness-to-pay (WTP) analysis was conducted for a threshold of twice the US GDP per capita; cost-effectiveness acceptability curves were constructed. ICERs less than the specified threshold are considered cost-effective. **RESULTS:** The base case Markov model yielded an incremental cost-effectiveness ratio (ICER) for NASHA/Dx vs. conservative therapy (CT) of \$30,123 / QALY (Quality Adjusted Life Year). The ICER for SNS vs. CT was \$51,187 / QALY; the ICER for AS vs. CT was \$56,564 / QALY. A sensitivity analysis for the long-term effectiveness of NASHA/Dx resulted in an ICER of \$40,327 for NASHA/Dx vs. CT. Probabilistic sensitivity analysis demonstrated that NASHA/Dx was cost-effective for 78% of the simulations at a threshold of \$70,654 / QALY gained. **CONCLUSIONS:** For FI patients, NASHA/Dx has demonstrated cost-effectiveness. Due to higher acquisition costs, SNS and anal sphincteroplasty were associated with larger ICERs. Sensitivity analyses indicated NASHA/Dx was cost-effective under all scenarios modeled. WTP analyses demonstrated that NASHA/Dx was highly probable to be cost-effective in the US context.

PMD71

THE SWITCH STUDY: THE IMPACT OF CONTINUOUS GLUCOSE MONITORING ON HEALTH CARE RESOURCE UTILIZATION

De Portu S¹, Castaneda J², Hommel E³, Olsen BS⁴, Battelino T⁵, Conget I⁶, Schütz-Fuhrmann I⁷, Hoogma R⁸, Schierloh U⁹, Sulli N¹⁰, Bolinder J¹¹, Gough H¹²
¹Medtronic International Srl, Tolochenaz, Switzerland, ²Medtronic Bakken Research Center, Maastricht, The Netherlands, ³Steno Diabetes Center, Gentofte, Denmark, ⁴Herlev Hospital, Herlev, Denmark, ⁵University Children's Hospital, Ljubljana, Slovenia, ⁶ICMDM Hospital Clinic i Universitari, Barcelona, Spain, ⁷Hospital Hietzing, Vienna, Austria, ⁸Groene Hart Ziekenhuis, Gouda, The Netherlands, ⁹Centre Hospitalier de Luxembourg, Luxembourg, Luxembourg, ¹⁰Policlinico Umberto I, Rome, Italy, ¹¹Karolinska University Hospital, Stockholm, Sweden, ¹²Medtronic International Trading Srl, Tolochenaz, Vaud, Switzerland

OBJECTIVES: To evaluate the metabolic effect of adding continuous glucose monitoring (CGM) to insulin pump therapy and the impact of CGM on medical resource utilization **METHODS:** Eighty-one adults & seventy-two children with Type 1 diabetes participated in a multicenter, randomized, controlled, cross-over study. Following a one month run-in period, subjects were randomized to CGM Sensor-ON or Sensor-OFF arms for six months, following a four month wash-out period subjects crossed over to the other treatment arm for six additional months. Health care resources utilization data was collected for both arms at baseline and at each study visit. **RESULTS:** Sensor use significantly improved glycemic control resulting in an HbA1c reduction of -0.43% in the intention to treat population. There was no statistically significant difference in the average total daily amount of insulin used between Sensor-ON and Sensor-OFF groups both in children or adults. There were statistically significant reductions in the average weekly number of finger-prick tests observed in Sensor-ON vs. Sensor-OFF period (-3 tests/week in adults and -5 tests/week in children,) resulting in 140€ (adults) and 234€ (children) yearly cost reduction. There was no significant difference in the number of diabetes related hospitalizations but the duration of the stay tended to be less with Sensor-ON vs Sensor-OFF (Adults: 2.2 vs 2.5 days and Children: 1.5 vs 2.0 days). In the per-protocol population children missed significantly less days of school during the Sensor-ON vs. Sensor-OFF periods (13 vs 42 days, p=0.0046). **CONCLUSIONS:** Adding CGM to pump therapy significantly improved metabolic control in adults and children, without increasing insulin dosage and concomitantly reducing the number of finger-prick tests. Using the sensor five or more days per week significantly reduced absence from school in children with type 1 diabetes.

MEDICAL DEVICE/DIAGNOSTICS - Patient-Reported Outcomes & Patient Preference Studies

PMD72

THE USE OF MULTI-CRITERIA DECISION ANALYSIS TO ELICIT COLORECTAL CANCER SCREENING PREFERENCES

Hummel JM, Steuten L, Groothuis-Oudshoorn KGM, Mulder N, IJzerman MJ
University of Twente, Enschede, The Netherlands

OBJECTIVES: Despite the expected health benefits of colorectal cancer screening

programs, participation rates remain low in countries that have implemented such a screening program. Besides the diagnostic accuracy and the risks of the screening technique that affect the health of the participants, additional factors, such as the burden of the test, may impact the individuals' decisions to participate. The aim of this study is to explore the impact of preferences for the attributes of screening tests on intention to attend a colorectal cancer screening program. **METHODS:** We used a web-based questionnaire to elicit the preferences of Dutch men and woman aged 55 to 75 years for alternative colon screening techniques, and to measure their intention to attend the screening. The Analytic Hierarchy Process (AHP), a technique for multi-criteria analysis, was used to estimate the colorectal cancer screening preferences for iFOBT, Colonoscopy, Sigmoidoscopy and Virtual Colonoscopy. **RESULTS:** We included 167 respondents that were consistent in their judgments on the relevance of the criteria and the preferences for the screening techniques. The results indicate that the most preferred screening methods with the highest intention to attend were Virtual Colonoscopy and iFOBT. Sensitivity and safety of the screening methods were the strongest determinants of the overall preference for the screening techniques. However, safety and inconvenience were most strongly related to intention to attend. **CONCLUSIONS:** Even though for the long term the respondents may recognize the high importance of diagnostic effectiveness, their short term decision to attend the screening tests appears to be less driven by this consideration. Our analysis suggests that inconvenience and safety will be the strongest technique-related determinants of the respondents' decision to participate in the new screening program in the Netherlands.

PMD73

QUALITY OF LIFE AND RESOURCE USE AFTER TRANSCATHETER AORTIC VALVE IMPLANTATION. PRELIMINARY RESULTS OF AN OBSERVATIONAL MULTICENTRE STUDY

Ribera A¹, Ferreira-González J², Slof J³, Cascant P¹, Abdul-Jawad O¹, Marsal JR¹, Garcia del Blanco B¹, Serra V¹, Falces C⁴, Andrea R⁴, Gutiérrez E⁵, del Valle R⁶, Mota P⁷, López D⁸, Tornos P¹, Garcia-Dorado D¹

¹Vall d'Hebron University Hospital, Barcelona, Barcelona, Spain, ²Vall d'Hebron University Hospital, Barcelona, Barcelona, Spain, ³Universitat Autònoma de Barcelona, Bellaterra, Spain, ⁴Hospital Clínic i Provincial de Barcelona, Barcelona, Barcelona, Spain, ⁵Hospital Gregorio Marañón, Madrid, Madrid, Spain, ⁶Hospital Central de Asturias, Oviedo, Oviedo, Spain, ⁷Hospital Clínico de Valladolid, Valladolid, Valladolid, Spain, ⁸Hospital Clínico de Santiago, Santiago de Compostela, a Coruña, Spain

OBJECTIVES: Although transcatheter aortic valve implantation (TAVI) is effective and less invasive than surgery, its superiority in terms of costs and quality of life is controversial and has not been well demonstrated in "real life" patients. The primary objective of the TEVAS study is to evaluate cost-utility of TAVI vs conventional surgery and conservative treatment. In this preliminary analysis we present clinical results, resource use, and changes in quality of life during the first month after TAVI in a real life setting. **METHODS:** Candidate patients were recruited prospectively at the time of indication in 7 Spanish hospitals. A centralized follow-up was performed by phone one month after intervention. We measured utility with EQ5D and specific quality of life with the Heart-QoL questionnaire. **RESULTS:** A total of 109 patients were recruited in the TAVI group and follow-up at one month was available for 66. Mean age: 80.8 (SD:6.6), mean logistic EuroSCORE: 14 (SD:12.6) (median:10.32, Q1-Q3:6.2-18.6). Four patients (6%) had severe complications after TAVI (AMI, stroke or need for a second valve) and 8 (12.1%) died in the first 30 days after TAVI. Among survivors, EQ5D score improved significantly from baseline (0.61, SD:0.33 to 0.72, SD:0.31; p-value:0.01) and so did the Heart-QoL overall score (1.44, SD:0.77 to 2.07, SD:0.58; p-value<0.001). During the first month of follow-up there were a mean of 0.89 visits per patient to the family physician, 0.40 to a specialist and 0.44 to the nurse. Six patients (10.3%) had at least one readmission (7% for cardiovascular causes; mean hospital length of stay: 6.8 days per patient). **CONCLUSIONS:** Although quality of life improves substantially in the first month after TAVI, in preliminary analysis resource use still remains high.

PMD74

THE RELATIONSHIP BETWEEN TREATMENT SATISFACTION AND HEALTH STATUS AMONG THOSE WITH TYPE 1 DIABETES

Pignot M¹, Eichmann F², DiBonaventura MD³

¹Kantar Health, München, Bavaria, Germany, ²Kantar Health GmbH, München, Germany, ³Kantar Health, New York, NY, USA

OBJECTIVES: Patients with type 1 diabetes (T1D) can achieve glycemic control either through multiple daily injections or by using insulin pump therapy (IPT). However, real-world data on these treatments is lacking. The objective of this study was to compare the levels of treatment satisfaction between patients using IPT versus those not and to examine the relationship between treatment satisfaction and health status. **METHODS:** Unique respondents from the 2009, 2010, and 2011 U.S. National Health and Wellness Surveys were pooled together for analysis. All respondents who reported a diagnosis of T1D were included. Those using IPT were compared with those not using IPT. The relationship between satisfaction and health status was also examined using multiple linear regression models (controlling for sociodemographics and health history variables) among all T1D patients using insulin. Health status was assessed using the SF-12v2 instrument. **RESULTS:** Of the 1441 patients who reported being diagnosed with T1D and were currently using insulin, 379 reported using IPT (26.3%). Patients using IPT reported significantly higher levels of satisfaction with their treatment (6.0 vs. 5.8, p<.05). Among all patients with T1D and using insulin, satisfaction was significantly associated with greater health status across all summary and domain scores of the SF-12 including: mental component summary (b=1.64), physical component summary (b=0.84), bodily pain (b=1.34), vitality (b=3.74), physical functioning (b=3.11), physical role limitations (b=3.45), emotional role limitations (b=2.87), general health

(b=3.16), mental health (b=3.34), social functioning (b=3.79), and health state utilities (b=0.02) (all p<.05). Satisfaction was also significantly associated with less impairment in daily activities (b=-2.44). **CONCLUSIONS:** Patients using IPT reported significantly greater satisfaction and satisfaction was associated with greater health status and reduced activity impairment. Further research is necessary to uncover the mechanisms of these relationships but these findings suggest that the patient's perspective of their treatment is strongly associated with health outcomes.

PMD75

DOES PRESENTING FOLLOW-UP TEST INFORMATION AFFECT PEOPLE'S PREFERENCES FOR COLORECTAL CANCER SCREENING TESTS? A DISCRETE CHOICE EXPERIMENT

Benning T¹, Dellaert B¹, Severens J¹, Dirksen C²

¹EUR, Rotterdam, The Netherlands, ²Clinical and Medical Technology Assessment, AZ Maastricht, The Netherlands

OBJECTIVES: Fifty-one percent of people do not participate in non-invasive colorectal cancer screening. One of the reasons may be the prospect of a future invasive follow-up test (colonoscopy). We investigate how follow-up test information affects peoples' participation decision and screening test preferences and expect a negative effect on participation when colonoscopy is specified as follow-up test. **METHODS:** Attributes and levels in the DCE are based on a literature review and analysis of CRC related mortality-risk (data Erasmus MC). We created a labeled and blocked efficient design with zero priors and restrictions in Ngene. The labels represent three different screening tests (a stool-test, blood-test, combi-test) and a non-participation option. Two follow-up test specification versions and 3 blocks resulted in six different web-based survey versions of 12 choice sets each. The colonoscopy specification version presents respondents an additional follow-up test attribute with colonoscopy as a fixed attribute level and detailed colonoscopy information. The non-colonoscopy specification version doesn't present respondents a follow-up test and follow-up test information. Respondents were randomly assigned to one of the survey versions. Data of 631 Dutch respondents, aged 55-75 years, is used in the analysis. **RESULTS:** MNL model results show a positive significant effect on screening test choice for the attributes sensitivity, risk reduction, and level of evidence, and a negative effect of 1-specificity. The significant negative interaction effects of the alternative specific constants with follow-up test specification indicate that uptake would be lower in case a colonoscopy is specified (83.8% versus 88.6%). Furthermore, the difference between the (more preferred) combi-test relative to the other tests diminishes for the colonoscopy specification. A nested logit model doesn't indicate scale differences. **CONCLUSIONS:** People's screening test preferences are affected by invasive follow-up test (colonoscopy) information presented in the survey. This result is interesting for policy makers that aim to optimize uptake.

PMD76

THE EFFECT OF INSULIN PUMP THERAPY ON HEALTH STATUS AMONG THOSE WITH TYPE 1 DIABETES

Pignot M¹, Eichmann F², DiBonaventura MD³

¹Kantar Health, München, Bavaria, Germany, ²Kantar Health GmbH, München, Germany, ³Kantar Health, New York, NY, USA

OBJECTIVES: Glycemic control for patients with type 1 diabetes (T1D) can be achieved either through multiple daily injections or through insulin pump therapy (IPT). Currently, there is a lack of real-world data on the differences in these treatment options, particularly as they relate to patient-reported outcomes. The objective of this study was to investigate the effect of IPT on health status among patients with T1D. **METHODS:** Data from unique respondents from the 2009, 2010, and 2011 U.S. National Health and Wellness Surveys were used. Among respondents who reported a diagnosis of T1D and reported using insulin, those who reported using IPT were compared with those who were not using IPT on summary and domain scores of the SF-12v2 using general linear models controlling for sociodemographic and health history differences. **RESULTS:** A total of 1,441 patients reported being diagnosed with T1D and were currently using insulin. Of these patients, 379 reported using an insulin pump (26.3%). Patients using an insulin pump had been diagnosed for longer (26.8 vs. 21.2 years) and were significantly more likely to be female (53.8% vs. 43.3%), be non-Hispanic white (87.6% vs. 68.6%), have an annual household income of \$75K or more (27.7% vs. 18.9%), and possess health insurance (95.05 vs. 84.8%) (all p<.05). Adjusting for these differences, patients using an insulin pump reported significantly better physical health status (44.76 vs. 42.51) and health utilities (0.71 vs. 0.68). Similar significant differences were observed on domain scores of the SF-12. **CONCLUSIONS:** Although T1D patients with greater health care access were more likely to use IPT, even after adjusting for these differences, a significant effect of IPT was observed on health status. These results suggest that IPT may be associated with greater real-world effectiveness, though additional research is necessary.

PMD77

CONTRIBUTION OF INDIVIDUAL EQ-5D DIMENSIONS TO IMPROVED QUALITY OF LIFE AFTER BALLOON KYPHOPLASTY FOR VERTEBRAL COMPRESSION FRACTURES

Borgström F¹, Aghayev E², Olafsson G¹, Miltenburger C³

¹Quantify Research, Stockholm, Stockholm, Sweden, ²IEFO, University of Bern, Bern, Switzerland, ³Medtronic International, Tolochenaz, Switzerland

OBJECTIVES: The acute back pain arising in relation to vertebral compression fractures (VCFs) has traditionally been viewed as the most important driver for the health-related quality of life (QoL) decrement associated with the fracture. The objective was to quantify the impact of different health dimensions on overall