QUALITY OF LIFE AFTER SUBARACHNOID HEMORRHAGE IN RELATION TO RISK ESTIMATION BEFORE SURGERY
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INTRODUCTION: Traditionally, long-term results of neurosurgical interventions have been measured by the Glasgow Outcome Scale. However, today, it is increasingly important to assess health related quality of life (HRQoL) as it is of utmost importance to the patients and their families. The purpose of our study was to investigate the relationship between before operation risk estimation and HRQoL one year after operation in patients operated for cerebral aneurysms within 72 hours after subarachnoid hemorrhage (SAH). METHODS: 97 patients underwent intracranial aneurysm surgery in the National Institute of Neurosurgery in 1998. All patients received nimodipine p. o. The fluid therapy was guided individually as the clinical signs and multimodal monitoring data indicated. The ASA physical status risk estimator was assessed before surgery. 12 months after the surgery, patients were interviewed by phone or by post. Health status was measured as mortality and as HRQoL measured by the EQ-5D questionnaire. ANOVA tests were conducted. RESULTS: 6 out of the 97 patients were lost during follow-up. Data of 91 patients (60 females and 31 males) were finally analyzed. Mortality rate was 25.3%. 68 patients were alive one year after surgery. EQ-5D weighted health status was 0.82, 0.55, 0.40 for patients with ASA scores of 1, 2, and 3, respectively ($P = 0.021$). Patients with ASA scores of 4 or 5 did not survive. Patients with intracerebral hemorrhage, ICH (25%) had drastically lower HRQoL, 0.47 versus 0.70 ($P = 0.042$). CONCLUSION: Our study showed that ASA risk estimation scores can well predict future HRQoL of surviving patients. Patients who had an ASA value of 3 lived in worse HRQoL than people over eighty years of age in the general population. Therefore, our results suggest that pre-operation risk estimators should be carefully considered at clinical decisions and at subgroup analyses in cost-effectiveness studies.

CONTRIBUTED POSTER PRESENTATIONS
Session I

CARDIOVASCULAR DISEASE

THE ATRIAL FIBRILLATION ANTITHROMBOSIS MODEL (AFAM): A GENERAL-PURPOSE TOOL FOR ANALYSIS, POLICY-MAKING, AND EDUCATION
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OBJECTIVE: To develop a health and economic simulation model of antithrombosis therapy that would serve as a general-purpose tool for research planning, clinical trial analysis, and education, and to demonstrate its use in a monthly cycles. Effectiveness was defined as days with good pain control. The following direct medical costs were included: baseline treatment, breakthrough medication, concomitant medication and adverse event treatment costs. Data on probabilities for altering pain control, for contracting adverse events, for switching treatment, and resource use data were obtained from clinical trials and from a Delphi panel. Unit costs were derived from official tariff and price lists. Base-case analysis, one-way and two-way sensitivity analyses were carried-out. RESULTS: Effectiveness was 99 days with good pain control for the transdermal fentanyl treatment in comparison with 64 days for sustained release morphine. The cost-effectiveness ratio (cost per day with good pain control) was Euro 8.54 with transdermal fentanyl and Euro 7.94 with sustained release morphine. The incremental effectiveness of transdermal fentanyl was 35 days, the incremental cost was Euro 338, and the incremental cost-effectiveness was Euro 9.63. The costs of baseline treatment, breakthrough and co-medication were higher, the costs of adverse event treatment were lower with transdermal fentanyl as compared with sustained morphine. The sensitivity analyses did not greatly affect the results and showed the model to be quite robust. CONCLUSION: Despite a cost-effectiveness ratio higher compared to that of sustained release morphine, transdermal fentanyl shows a valuable alternative for the treatment of non-malignant chronic pain. The incremental cost-effectiveness of transdermal fentanyl over sustained release morphine is quite moderate and justified by its substantially improved effectiveness with good pain control being a worth on its own, the higher patient preference due to its simplified and more attractive route of administration.
research planning exercise. METHODS: The Atrial Fibrillation Antithrombosis Model (AFAM) provides estimates of health and cost outcomes for up to four competing, user-defined antithrombosis (AT) strategies that may be used for individuals with atrial fibrillation (AF). These include conventional anticoagulation (AC) or enhanced AT such as improved management of a conventional coumarin anticoagulant (e.g., warfarin provided through AC services) or a new agent with some clinical advantage. Each strategy is characterized by: (1) patient eligibility pattern, (2) efficacy, (3) impact on quality of life; (4) discontinuation rate; and (5) initial and recurrent cost. AFAM is based on the Duke Stroke Policy Model (SPM), a validated natural history simulation that projects the health and cost outcomes of individuals at risk for stroke and those who have experienced stroke. As a demonstration, we applied the model to a research planning exercise. Using AFAM we calculated the threshold efficacy that would lead to an EAT that is cost-effective (i.e., incremental CE ratio of $\leq 50,000).) RESULTS: Assuming an EAT costs 50% greater than AC, and the relative risk of stroke for AC is 0.6, then EAT would be cost-effective if the relative risk for stroke is no less than 0.95. In absolute terms, a cost-effective EAT would need to reduce annual stroke risk from 3% down to 2.85%. CONCLUSIONS: The AFAM takes advantage of a previously developed, validated natural history simulation model. With relative ease this can be used to facilitate research planning, trial analysis and education. Its present application serves to demonstrate that treatments that are only modestly superior to existing therapies for stroke prevention can be cost-effective.

**PCV2**

**POPULATION PROJECTIONS OF CARDIOVASCULAR DISEASE MORBIDITY AND MORTALITY ASSOCIATED WITH ROFECOXIB’S EFFECT ON SYSTOLIC BLOOD PRESSURE**

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While cyclooxygenase-2 inhibitors appear to be safe, hypertensive persons who use rofecoxib may experience increases in systolic blood pressure (SBP). In a randomized clinical trial involving hypertensive osteoarthritis subjects, use of rofecoxib 25 mg was associated with a 3 mm Hg increase in systolic blood pressure versus celecoxib 200 mg. Increased SBP among users of rofecoxib may be associated with increased risk of cardiovascular disease. OBJECTIVE: To estimate excess coronary heart disease (CHD) and stroke morbidity and mortality associated with a 3 mm Hg increase in SBP among U.S. adults with hypertension and osteoarthritis. METHODS: We used cardiovascular risk prediction models from the Framingham Heart Study and risk factor data from the Third National Health and Nutrition Examination Survey to estimate occurrences of CHD and stroke over four years among osteoarthritis persons with hypertension. We then estimated the effect of a 3 mm Hg increase in SBP on event occurrence and costs of cardiovascular disease treatment. RESULTS: An estimated 10.2 million U.S. osteoarthritics aged 35+ years are hypertensive. Among such persons, a 3 mm Hg increase in SBP may be associated with 20,800 additional CHD events (22% fatal) and 21,600 additional stroke events (26% fatal) over four years. The total cost of treating these events over four years is estimated to exceed US$660 million in year 2000 constant dollars. CONCLUSION: Increases in SBP associated with use of rofecoxib versus celecoxib may translate into significant cardiovascular morbidity and mortality and impose a sizable economic burden.

**PCV3**

**THE COST-EFFECTIVENESS OF TREATING CHLAMYDIA PNEUMONIAE INFECTION FOR THE PREVENTION OF CORONARY HEART DISEASE**

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OBJECTIVES: Clinical and epidemiological evidence has been accumulating for a link between Chlamydia pneumoniae and coronary heart disease, but as yet causality is unproven. The aim of this study was to explore the potential impact and cost-effectiveness of a program of screening and treatment for C. pneumoniae, assuming a causal relationship, with a view to informing investment in definitive trials. METHOD: A spreadsheet model was used to estimate the impact of different strategies for screening and treating C. pneumoniae on the incidence of myocardial infarction and cardiac mortality over a 1-year post-intervention period, under a range of assumptions. RESULTS: Screening would potentially be most cost-effective in patients aged 35 or more with a history of myocardial infarction (central estimate around £3000 per life-year saved). Cost-effectiveness will be similar in those aged 75–84 with established heart disease but no history of MI, but inferior for younger patients of this kind, and poorer for people at elevated CHD risk. Sensitivity analysis confirmed that the factors that affect the additional cost of treatment of survivors of CHD (e.g. length of survival after prevented death, annual treatment cost for people with CHD) were all important. The factors that determine the cost of the screening program (e.g. duration and daily cost of antibiotic treatment) were also important, but less so. The results were less sensitive to the positive predictive value of screening and compliance with treatment, but these are variables for which wide ranges of values are plausible. CONCLUSIONS: If causality of the association between C. pneumoniae and heart disease were proven, this speculative model suggests that the likely range of costs per life-year saved of a program of identification and treatment of C. pneumoniae targeted at post-MI patients aged 35 or more would