OBJECTIVES: Constipation is considered an inconvenient problem, however data on the real burden is lacking. The objective of the current analysis was to assess the disease burden and cost of chronic constipation in Belgium. METHODS: From the IMS Hospital Disease Database (year 2007), which includes data on full hospitalizations and day clinic for 34.3% of Belgian hospital beds, stays of patients with constipation were selected based on the ICD-9-CM code (564.9) with constipation as a primary diagnosis. The database allows a complete length of stay, hospital mortality, performed interventions, ATC coded medication usage, and cost of hospitalisation. Using the 34% coverage, a national projection was made for the number of hospital stays and burden of disease. 2007 costs were extrapolated to 2010 by multiplying costs from 2001 to 2007 ATC codes for oral laxatives, softeners, bulking agents, enemas and peripheral opioid receptor antagonists were used. Occurrence of relevant co-morbidities was analyzed using applicable ICD-9-CM codes. RESULTS: There were 6338 hospital day clinic stays and full hospitalizations during the study period, about 42% of patients were admitted to ER. Most occurring co-morbidities were hemorrhoids (174D), fecal impaction (74D) and inflammatory bowel disease. Out of 2007 hospitalizations 29.6% (N=191) were discharged with a diagnosis of constipation. Hospitalization costs were €1883, consisting of medication costs, procedural costs and stay costs of €112, €675 and €1097, respectively. Extrapolated to Belgium the total hospitalization cost for constipation was approximately €11.9 million. Hospital stay is more frequent in the elderly particularly in elderly females.

CONCLUSIONS: Constipation is an underestimated disease condition reflected by hospital related costs of about €11.9 million and approximately 29 death cases in Belgium in 2007.

PG14 RESOURCE USE AND COST OF HEPATITIS C RELATED CARE IN BELGIUM

Costs were based on the Belgian national price list (D), Lamotte M1, Nevens F2, Colle P3, Michielsen P2, Robaey G5, Moreno C6, Wytelis V1
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OBJECTIVES: the aim of this study was to assess disease stage dependent resource use and costs in chronic genotype 1 hepatitis C (CHC) patients in Belgium.

METHODS: The medical records of 157 CHC patients were reviewed to identify medical costs over a follow up period of 3 years. Six disease stages were defined based on histology/clinical data: mild disease (F0-F2), moderate disease (F3) or compensated cirrhosis without varices (F4), compensated cirrhosis with varices (F4), decompensated cirrhosis, hepatocellular carcinoma (HCC) and liver transplantation (LT). Data collected were baseline demographic characteristics, HCV-related data and detailed resource use (hospitalizations, day-clinic visits, surgery/ interventions, physician visits, diagnostic tests and drug use). Resource use items were multiplied with unit costs (2010) to calculate costs. The public health care payer’s (HCP) perspective was taken including the health insurance and patient co-payment. RESULTS: Intravenous/intranasal drug use was reported in circa 20% of patients, 63% had co-morbidities at study start. Nineteen patients (12%) died during the study period, whereof 79% attributable to HCV. Average number of hospital stays during the study period ranged between 0.4 (mild disease) and 5.3 (HCC). Cost of care during the study period ranged from €18,993 for mild disease (in 81% due to HCV drug treatment) to €35,987 for patients with HCC (in 83% due to hospitalization, 13% due to medication and in 6% due to ambulatory care) and €65,158 for patients with LT (in 79% hospitalization, 3% medication, 3% ambulatory care). Cost of diagnosis of the disease stage ranged between €790 (F3-F4 without varices) and €6142 (decompensated cirrhosis). CONCLUSIONS: Antiviral treatment is the most important cost driver in mild & moderate disease, but once complications of CHC occur, the associated costs far exceed this cost of antiviral therapy.

PG15 THE COST AND QUALITY OF LIFE OF HEPATITIS C IN THE NETHERLANDS

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OBJECTIVES: Hepatitis C (HCV) is a disease which in the long run can lead to cirrhosis and liver cancer, resulting in liver transplantation or death if not treated properly. So far, there is a paucity of literature on health care costs and quality of life (QoL) of HCV management. This study aims to illustrate the health care costs and QoL associated with HCV in The Netherlands. METHOIDS: A medical fee of €380 was set, that include the administration of the capsule but not the external activities (i.e., logistic services, physician visits, data interpretation of the exam. Considering a service that performs three exams a month, the average cost of external activities is about €200 per exam. To estimate the price of each exam, a market price search for each of them in order to compose the final total cost. For the initial investment in one computer and in one receiver, which is attached to the patient to capture the capsule’s signal, known as “belt”. Included in the analysis are also the cost of the capsule(s), some medicines, the physician(s) and the hospitalisation. The initial investment is about €10,400. Extracted from the database were 34 patients (13% of 266 patients) and 1329 single use capsules. The total cost associated to perform a procedure is €380 (single use). A medical fee of €380 was set, that include the administration of the capsule, the supervision of the patient during the length of the procedure and the interpretation of the exam. Considering a service that performs three exams a month, a cost of €380 would be necessary to cover the expenses with material, personnel (doctors included) and to pay the amortization costs, insurance and interests for a 24 months period. CONCLUSIONS: In Brazil, the cost of EC procedure may be set at US$1645 in order to cover the expenses of the service.

PG16 COMPARISON OF TREATMENT AND INDIRECT COSTS BETWEEN HEPATITIS, CIRRHOSIS, LIVER TRANSPLANTATION AND HEPATIC CARCINOMA: RESULTS OF THE COME STUDY

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OBJECTIVES: As a result of successful treatments for chronic hepatitis diseases (CHDs), patients’ life expectancy, but also the diseases prevalence and costs are increasing. However, societal costs for CHDs remain little known. We assessed treatment and productivity costs of patients with CHDs in Italy. METHODS: A national cross-sectional Cost-Utility study was conducted on 1,088 patients with CHDs (N=312/ patient-month), followed by hepatitis B 4553/ patient-month, hepatitis C 169/ patient-month, neither result was statistically significant at p<0.04 and p<0.2. There were no significant differences in indirect costs. CONCLUSIONS: This study provides basic information about the costs and utility of hepatitis C treatment. Such information is valuable when considering cost-effectiveness of new treatments for this disease.

PG17 COST OF OUTPATIENT ENDOSCOPIC CAPSULE (EC) PROCEDURE IN BRAZIL: A STUDY FROM A PAYER’S PERSPECTIVE

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OBJECTIVES: There is no published study about the direct costs linked to the procedure of the EC in Brazil. Our aim was to determine a base price of a single procedure of EC. METHODS: Based on a micro cost approach, we first determined the individual items that compose an EC procedure. Then we conducted a market price search for each of them in order to compose the final total cost. For the permanent equipment needed we considered an amortization time of 24 months and a 1% monthly interest percent rate. RESULTS: An EC procedure requires an initial investment in one computer and one receiver, which is attached to the patient to capture the capsule’s signal, known as “belt”. Included in the analysis are also the cost of the capsule(s), some medicines, the physician(s) and the hospitalisation. The initial investment is about US$10,411. Extracted from the database were 34 patients (13% of 266 patients) and 1329 single use capsules. A medical fee of US$380 was set, that include the administration of the capsule, the supervision of the patient during the length of the procedure and the interpretation of the exam. Considering a service that performs three exams a month, a cost of US$1645 would be necessary to cover the expenses with material, personnel (doctors included) and to pay the amortization costs, insurance and interests for a 24 months period. CONCLUSIONS: In Brazil, the cost of EC procedure may be set at US$1645 in order to cover the expenses of the service.

PG18 TREATMENT OF CHRONIC HEPATITIS C PATIENTS WITH PEGINTERFERON ALFA-2a OR PEGINTERFERON ALFA-2b: A COST-EFFECTIVENESS ANALYSIS FOR THE PORTUGUESE NHS SETTING

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OBJECTIVES: Estimate long-term cost-effectiveness of treatment with peginterferon (pegINF) alfa-2a (180 mcg/week) in combination with ribavirin (RBV) (800 - 1200 mg/week) versus pegINF alfa-2b (180 mcg/week) + RBV (800 - 1400 mg/day), in patients with Chronic Hepatitis C (CHC), from the Portuguese National Health System (NHS) perspective. METHODS: To project disease progression, a seven-health state Markov model was built based on clinical stages of CHC. Efficiency data was obtained from a published meta-analysis of 8 head-to-head randomized trials that showed higher sustained virological response (SVR) in patients receiving pegINF alfa-2a compared to pegINF alfa-2b. Effectiveness was measured in terms of quality-adjusted life years. Transition probabilities and health state utilities were obtained from published literature. Treatment duration was considered to be 48 and 24 weeks for genotypes 1A and 2/3, respectively. A Delphi panel with Portuguese experts was conducted to evaluate direct medical resources asso-
citated with each health state, followed by micro-costing of the results. Costs were calculated according to Portuguese official databases. Only direct health costs were associated with each health state, followed by micro-costing of the results. Costs were estimated using the Nationwide Inpatient Sample 2008, a representative US country-wide database and were expressed in 2010 US$. In each of the 3 treatment branches (PPI, H2RA and sucralfate), patients could be in one of three states of health: no complication (NC), SUB or VAP. A third-party payer perspective was adopted. Cost-effectiveness and sensitivity analyses were performed. A 60-year lifetime horizon was adopted. RESULTS: PPI, H2RA and sucralfate treatments were associated with SUB and VAP probabilities of 5.9% and 17.2%, 5.1% and 17.7%, and 1.4% and 10.3%, respectively. Lengths of stay and per diem costs were 14 days and $2,993 for NC, 24 days and $2,764 for SUB, and 42 days and $3,310 for VAP. Average costs per non-reebling patient were $58,734 for PPI, $77,543 for H2RA, and $77,366 for sucralfate. H2RA and Sucralfate were dominated by PPI. These findings were robust on sensitivity and threshold analyses. Probability of complications would need to increase to 20% in the PPI group or drop to 1% in either of the other two treatment groups in order for PPI to emerge as the dominant strategy. CONCLUSIONS: PPI prophylaxis is the dominant prophylactic strategy in patients at high-risk of developing SUB when compared to using H2RA or sucralfate.

PGI20 PHARMACOECONOMIC STUDY OF GLUTAMINE Dipeptide USAGE DURING TOTAL PARENTERAL NUTRITION (TPN)

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OBJECTIVES: To undertake a comparative analysis of 2 schemes of TPN: isolated standard scheme of TPN (2 types: “all in one bag” and “1+1+1”) and scheme of TPN, which includes expenses for purchasing and usage of glutamine dipeptide - 1652,66 €

METHODS: Pharmacoeconomic analysis “cost-effectiveness” was provided. The study estimated direct costs, because appraisal from the stand point of the Russian healthcare system was chosen: expenses for drug therapy, hospitalization (intensive care and medical division) and late complications (pneumonia and sepsis). Treatment adherence was estimated using a random sample of UC patients with no diagnosis of Crohn’s disease who were initiated on an oral mesalamine formulation from January 2005 to December 2009. Treatment adherence (medication possession ratio [MPR]) and persistence were calculated over a 1-year period after index prescription. To evaluate the economic impact of non-adherence and non-persistence, the number and cost of additional costs on top of the usual diagnosis in order to properly deal with infection control and hospital management.

Gastrointestinal Disorders – Patient-Reported Outcomes & Preference-Based Studies

PGI22 THE EXTRA HEALTH COSTS ASSOCIATED WITHANTIMICROBIAL PROPHYLAXIS IN COLONIC SURGICAL PATIENTS: AN EXPLORATION OF PROFILING DATA FROM A UNIVERSITY HOSPITAL IN JAPAN

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OBJECTIVES: The cost-effectiveness of peginterferon and ribavirin (PEG, IFN+RBV) for elderly patients with chronic hepatitis C (CHC) was investigated. A nationwide registration of interferon-treated hepatitis patients has been conducted in Japan since 2009. This study was based on individual patient data from the registration for investigation in a real-world setting. METHODS: PEG, IFN+RBV-treated CHC patients 65-years or older were analyzed. All registered patients received antiviral treatment and were assumed to be treated by one of the doctors. The incremental cost and effectiveness of treatment was estimated as the difference between actual events and the assumed longstanding disease state. The individual patient data regarding age, gender, and duration of and response to treatment was used to estimate cost (medical costs and efficacy: QALY). The results were compared to the next best available treatments (ICER and 95% bootstrap confidence interval (CI)). RESULTS: There were a total of 1378 patients (median age: 67 years, 62.1% males, 37.9% females, 72.9% genotypes 1/4 and genotypes 2/3, respectively. The savings per patient treated with pegIFN alfa-2a plus RBV were €4,296 and €1,967 for all genotypes, genotypes 1/4 and genotypes 2/3, respectively. CONCLUSIONS: According to the present model, the treatment of patients with CHC with pegIFN alfa-2a plus RBV is a dominant strategy in comparison to pegIFN alfa-2b plus RBV for all genotypes.

PGI19 STRESS ULCER BLEEDING PROPHYLAXIS WITH PROTON PUMP INHIBITORS, H2 RECEPTOR ANTAGONISTS OR SUCRALFATE: A COST-EFFECTIVENESS ANALYSIS

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OBJECTIVES: Proton pump inhibitors (PPI), H2-receptor antagonists (H2RA) and sucralfate present varying pharmacological efficacy in preventing stress ulcer bleeding (SUB) in intensive care units. The literature also reports disparate rates of ventilator assisted pneumonia (VAP) as side-effects of these treatments. We compared the cost-effectiveness of these 3 pharmaco-prophylaxis options. METHODS: We constructed a decision tree for patients at high-risk for developing SUB (diagnosis: hypovolemic shock, hypothermia, acute pancreatitis, respiratory failure, extensive burns, acute renal failure, shock, acute pancreatitis, coronary artery bypass graft surgery). Probabilities were obtained from a broad literature search. Costs were estimated using the Nationwide Inpatient Sample 2008, a representative US country-wide database and were expressed in 2010 US$. In each of the 3 treatment branches (PPI, H2RA and sucralfate), patients could be in one of three states of health: no complication (NC), SUB or VAP. A third-party payer perspective was adopted. Cost-effectiveness and sensitivity analyses were performed. A 60-year lifetime horizon was adopted. RESULTS: PPI, H2RA and sucralfate treatments were associated with SUB and VAP probabilities of 5.9% and 17.2%, 5.1% and 17.7%, and 1.4% and 10.3%, respectively. Lengths of stay and per diem costs were 14 days and $2,993 for NC, 24 days and $2,764 for SUB, and 42 days and $3,310 for VAP. Average costs per non-reebling patient were $58,734 for PPI, $77,543 for H2RA, and $77,366 for sucralfate. H2RA and Sucralfate were dominated by PPI. These findings were robust on sensitivity and threshold analyses. Probability of complications would need to increase to 20% in the PPI group or drop to 1% in either of the other two treatment groups in order for PPI to emerge as the dominant strategy. CONCLUSIONS: PPI prophylaxis is the dominant prophylactic strategy in patients at high-risk of developing SUB when compared to using H2RA or sucralfate.