PGi14 CHARACTERISTICS OF DIVERTICULITIS-RELATED EMERGENCY DEPARTMENT VISITS IN THE UNITED STATES

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OBJECTIVES: Diverticulitis (DV) exerts a significant burden on health care systems and payers. Although DV is often diagnosed as an emergent condition in emergency department settings, the characteristics of DV-related encounters in ED settings exist. This study characterizes DV-related ED visits in the US in 2007. METHODS: Data were from the 2007 Healthcare Cost and Utilization Project (HCUP) Nationwide Emergency Department Sample (NEDS), a nationally representative sample of ED visits in the US. For each visit in the NEDS, clinical and resource use information is recorded, including demographic diagnoses and procedures performed, payer information, and total charges. Patients with a primary DV diagnosis (ICD-9-CM 531.0, 534, 535) were identified. Primary, stay- and facility-specific characteristics were documented for each DV-related ED visit, and compared to ED visits in the US during the same period. Sampling weights in the NEDS allow for generation of nationally representative estimates. RESULTS: Of 122 million ED visits in the US in 2007, 284,853 involved a primary DV diagnosis. Among these visits, mean patient age was 58.3 years, −20 years older than non-DV-related ED visits (60.7 years; P < 0.001). 44% were for females. Visit characteristics for DV-related ED visits most often occurred in the southern US (38.1%), private health insurance was the most frequent payer for these visits (45.6%), and 50% were admitted to an inpatient facility from the ED (56.7%). The mean charge per DV-related ED visit (2011 US dollars) was $5,211, nearly double than for non-DV-related ED visits ($1,677; P < 0.001). Total charges across all DV-related ED visits were $1.5 billion. CONCLUSIONS: DV requires careful clinical management, across a variety of health care settings. This study presents novel information on DV-related ED visits in the US. Adding to the body of knowledge regarding DV-related care may help providers and decision makers optimize allocation of resources to treat all ED patients.

PGi15 COST-EFFECTIVENESS ANALYSIS OF LACTEST, A NEW DIAGNOSTIC DRUG TEST FOR HYPOLACTASIA IN SPAIN

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OBJECTIVES: To compare the cost and effectiveness of LacTest® versus other diagnostic procedures available to identify lactose intolerance using the perspective of Spanish National Health System. METHODS: A cost-effectiveness analysis was carried out using a decision tree comparing LacTest® with the hydrogen breath test, the capillary blood glucose test and the intestinal biopsy. Data on the effectiveness of each diagnostic procedure, expressed as the sensitivity of each test or the proportion of true positives identified by the test for all patients, were taken from the clinical results of the EUDRA study. The use of health care resources associated with the tests and their costs were obtained from literature review. Costs considered included diagnostic tests, laboratory tests, physicians visits and time of health care personnel. The time horizon of the analysis was one year. All costs are expressed in Euro 2012. Results were expressed as the effectiveness and costs of LacTest® compared with the other diagnostic procedures. RESULTS: The proportion of diagnosed patients, as measured by sensitivity, was higher for LacTest® with 0.991 than for the other diagnostic procedures with values of 0.674, 0.753 and 0.841 for the hydrogen breath test, glucose test and intestinal biopsy, respectively. Direct healthcare costs per patient were €187 with LacTest®, €143 with the hydrogen breath test, €160 with the capillary blood glucose test and €548 for the intestinal biopsy. CONCLUSIONS: The results indicate that LacTest® is demonstrating a higher sensitivity in the diagnosis of new cases of lactose intolerance, with a higher diagnostic accuracy and lower costs. The diagnostic accuracy of LacTest® showed to be the dominant option compared with the intestinal biopsy. When compared with the hydrogen breath test and the capillary blood glucose test, LacTest® showed to be more effective at an incremental cost of €44 and €60, respectively.

PGi16 COST-EFFECTIVENESS OF BOCEPREVIR PLUS PEGINTERFERON ALFA AND RIBAVIRIN VERSUS TELAPREVIR PLUS PEGINTERFERON ALFA AND RIBAVIRIN IN THE TREATMENT OF CHRONIC HEPATITIS C (CHC) IN PREVIOUSLY UNTREATED GENOTYPE 1 PATIENTS

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OBJECTIVES: In previously untreated adults with hepatitis C virus (HCV) genotype 1 CHC, boceprevir (BPR) plus peginterferon alpha-2a/2b (PR) have shown to have a higher rate of sustained virologic response (SVR) than peginterferon alfa/ribavirin (PR). The aim of this study is to assess the cost-effectiveness of these two antiviral regimens. METHODS: We developed a Markov model to describe the clinical history of CHC genotype 1 patients in which one cohort (C1) receives PR for 4 weeks followed by BPR for 24 weeks and the other cohort (C2) receives PR for an additional 20 weeks; cohort 2 patients receive TPR for 12 weeks followed by PR for 24 weeks and those patients with a detectable HCV RNA level between weeks 8 and 24 receive PR for an additional 20 weeks; cohort 2 patients receive TPR for 12 weeks followed by PR for 4 weeks and those patients with a detectable HCV RNA level between weeks 4 and 12 receive PR for an additional 24 weeks. All patients are followed for their expected lifetime. The reference patient is 50-year-old male with CHC without cirrhosis. The SVRs to BPR and TPR cohorts came from SPRINT 2 and ADVANCE studies. The SVRs to BPR and TPR cohorts came from SPRINT 2 and ADVANCE studies. Quality of life for each health state was based on literature. Costs for each health state were based on three Delphi panels, one with hepatologists, one with intensivists and another with oncologists. Costs in 2011 Brazilian Reais and benefits were discounted at 3%. RESULTS: BPR increases life expectancy by 0.78 years and quality adjusted life years (QALYs) by 1.20 years compared to TPR. BPR is cheaper than TPR (-24,871 Brazilian Reais). CONCLUSIONS: In Brazil, for the treatment of previously untreated adults with HCV genotype 1 boceprevir plus peginterferon alfa-2a/2b and ribavirin is dominant compared with telaprevir plus peginterferon alfa-2a/2b.

PGi17 COST-EFFECTIVENESS OF TELAPREVIR WITH PEGINTERFERON AND RIBAVIRIN FOR TREATMENT-NAIVE PATIENTS Chronically INFECTED WITH HCV OF GENOTYPE 1 IN JAPAN

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OBJECTIVES: Telaprevir introduced recently as a new protease inhibitor for chronic HCV infection showed promising results used in conjunction with peginterferon and ribavirin (triple therapy: TT). We assess the cost-effectiveness of TT compared to peginterferon-ribavirin dual therapy in the treatment of previously untreated Japanese patients with genotype 1 chronic hepatitis. METHODS: We created a Markov decision model of HCV natural history and progression toward advanced liver disease to evaluate the cost-effectiveness of alternative treatment strategies, in a previously untreated Japanese cohort consisted of patients aged 50 years with genotype 1 chronic hepatitis for a time horizon of lifetime. We compared 3 strategies; no treatment, standard 48 weeks of dual therapy with further 24 weeks of extended treatment for late viral responders (DT+: total 72 weeks) and 24 weeks of TT. The data sources of natural history model were mainly derived from Japanese epidemiological studies. Due to lack of the evidence of the direct comparative effectiveness between TT and DT+ in Japanese HCV patients, the results of a randomized control trial compared TT with standard dual therapy was combined with those of an observational study which compared effectiveness between standard dual therapy and those with extended treatment. RESULTS: Our model estimated TT and DT+ strategies could yield 0.67 and 0.48 of the sustained viral response, respectively. In the base case analysis, TT was more effective in comparison with those treated by DT+ and no treatment strategies and could increase by 0.92 and 1.40 quality-adjusted life years (QALYs) for standard dual therapy and those with extended treatment. CONCLUSIONS: TT and DT+ are more effective and cost-saving strategy compared with DT- for untreated patients chronically infected with HCV of genotype 1 in Japan.

PGi18 COST-EFFECTIVENESS OF BOCEPREVIR IN COMBINATION WITH PegYLATED INTERFERON ALFA AND RIBAVIRIN FOR TREATMENT OF CHRONIC HEPATITIS C (CHC) IN PREVIOUSLY UNTREATED PATIENTS CHRONICALLY INFECTED WITH HCV OF GENOTYPE 1 IN JAPAN

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OBJECTIVES: Evaluate the cost-effectiveness of telaprevir with peginterferon alfa and ribavirin compared with peginterferon alfa and ribavirin in previously untreated Japanese patients with genotype 1 chronic hepatitis. METHODS: We estimated the cost-effectiveness of telaprevir with peginterferon alfa and ribavirin in previously untreated Japanese patients with genotype 1 chronic hepatitis for a time horizon of lifetime. We compared 3 strategies; no treatment, standard 48 weeks of dual therapy with further 24 weeks of extended treatment for late viral responders (DT+; total 72 weeks) and 24 weeks of TT. The data sources of natural history model were mainly derived from Japanese epidemiological studies. Due to lack of the evidence of the direct comparative effectiveness between TT and DT+ in Japanese HCV patients, the results of a randomized control trial compared TT with standard dual therapy was combined with those of an observational study which compared effectiveness between standard dual therapy and those with extended treatment. RESULTS: Our model estimated TT and DT+ strategies could yield 0.67 and 0.48 of the sustained viral response, respectively. In the base case analysis, TT was more effective in comparison with those treated by DT+ and no treatment strategies and could increase by 0.92 and 1.40 quality-adjusted life years (QALYs) for standard dual therapy and those with extended treatment. CONCLUSIONS: TT and DT+ are more effective and cost-saving strategy compared with DT- for untreated patients chronically infected with HCV of genotype 1 in Japan.
OBJECTIVES: Despite available treatment options, chronic infection of individuals with the hepatitis C virus (HCV), together with associated chronic liver diseases, remains a significant public health burden in England and Wales. Fewer than half of patients with genotype 1 chronic hepatitis C (CHC) achieve sustained virologic response (SVR) following the current standard treatment with peginterferon alfa and ribavirin. The aim of this analysis was to evaluate the cost-effectiveness of boceprevir as a part of triple therapy and peginterferon alfa and ribavirin, compared to peginterferon alfa and ribavirin alone, among treatment naive and previously treated patients with genotype 1 CHC in England and Wales.

METHODS: Specific treatment strategies for boceprevir have been outlined in the UK licence for different patient groups. A Markov model was developed to evaluate these strategies. The model was developed to compare the current standard therapy (CST) with boceprevir triple therapy (BTT) and peginterferon alfa/ribavirin. The model takes into account the health state transition data from a large database of patients treated with peginterferon alfa and ribavirin for CHC. The model incorporates the treatment costs, side effect rates, and effectiveness of the above strategies. Costs and effectiveness are compared for each therapy arm over lifetime of the patient cohort. Clinical data inputs for each treatment strategy were estimated based on subgroup analyses of the phase III trials for boceprevir.

RESULTS: The incremental cost-effectiveness ratio (ICER) for treatment-naive patients was €31,601 when boceprevir triple therapy was compared to current standard treatment with peginterferon alfa and ribavirin. For treatment-experienced patients, the ICER with boceprevir triple therapy was €2,909. These results were robust to sensitivity analyses and below a threshold of €50,000 per quality-adjusted life-year (QALY) gained.

CONCLUSIONS: The incremental cost-effectiveness of using boceprevir in triple therapy compared to peginterferon alfa and ribavirin as combination therapy was cost-effective for patients with treatment-naive CHC and treatment-experienced patients with genotypes 1 and 2 CHC in England and Wales.