COST-EFFECTIVENESS ANALYSIS OF THE EPOETIN TREATMENT IN PATIENTS WITH ANEMIA INDUCED BY CHEMOTHERAPY, EPICOST STUDY PRELIMINARY RESULTS (ONVIDA GROUP)

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OBJECTIVES: To evaluate the cost-utility of the anemia induced by chemotherapy treatment, with and w/o Epoetin (EPO), in oncologic patients from the perspective of the Spanish National Health System (NHS).

METHODS: Cost-Utility analysis model (cost per quality-adjusted life-year, QALY) in oncology patients treated with EPO for 2.48 months (range 1.33–5.00 months). The estimation of use and consumption of health resources (including units of red blood cell concentrates, transfusions, and subcutaneous administration of EPO), with and w/o EPO, was done with the information provided from a panel of Spanish Onco-hematologists. The adverse events rate (thrombocytopenia, venous thromboembolism, and others) as well as the frequency of complications due to blood transfusions (pulmonary toxicity, hemolysis, viral and bacterial infections) and the utilities, with or without EPO, were obtained from a bibliographic systematic review. Costs of health resources were obtained from Spanish databases of health costs. A base case was evaluated, considering average costs, and a univariate sensitivity analysis.

RESULTS: In the base case, health costs of anemia in patients treated or not with EPO was €3893 and €2329, respectively, with an EPO incremental cost of €1564. Assuming that an increase of 0.1114 (0.0300–0.3100) QALYs is the EPO benefit, the cost per QALY gained would be €14,040 (€5045–52,133), with all type of tumors included in the analysis. When only solid tumors were evaluated, excluded haematologic tumors, cost per QALY gained was €11,849 (€3,000–17,795) and EPO would be cost-effective in any case. CONCLUSIONS: According to the model assumptions, the treatment with EPO for anemia induced by chemotherapy could be cost-effective in Spain. Currently there is a ongoing prospective study that will allow to clarification of this question using real clinical data.

EUROPEAN ECONOMIC EVALUATION OF OROS® HYDROMORPHONE IN THE MANAGEMENT OF SEVERE CHRONIC CANCER AND NON-CANCER PAIN

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OBJECTIVES: A decision-analytic model was developed to estimate the cost-utility of once-daily OROS® hydromorphone (HM) given to oral opioids in five European countries (Germany, Denmark, Slovakia, Portugal, and Italy). METHODS: The decision-analytic cost-utility model was developed to estimate the direct medical costs and quality-adjusted life-year (QALYs) gains associated with once-daily OROS® HM versus sustained-release (SR) morphine, controlled-release (CR) oxycodone, and twice-daily HM over a 1-year time horizon in the management of severe chronic malignant and non-malignant pain. CR oxycodone is not available in Portugal and twice-daily HM is not available in Portugal and Italy, therefore, they were not considered in those countries. RESULTS: Results from the model demonstrate that for the management of severe chronic non-malignant pain, OROS® HM is cost-effective in all markets when compared to SR morphine or CR oxycodone. Compared to SR morphine, incremental cost-effectiveness ratios (ICERs) ranged from €6624/QALY (Slovakia) to €10,480/QALY (Italy). Compared to CR oxycodone, ICERs ranged from €1191/QALY (Germany) to €8559/QALY (Italy). Compared to twice-daily HM, OROS® HM was dominant (Germany, Slovakia) or had a minimal ICER (Denmark ICER €1048/QALY). For the management of severe chronic malignant pain, comparing OROS® HM to SR morphine, the ICER was highest in Portugal ($21,436/QALY) and was below €13,500/QALY in the remaining countries. Compared to CR oxycodone, OROS® HM was dominant (Germany) or cost-effective with ICERs that ranged from €13996/QALY (Denmark) to €10,651/QALY (Italy). OROS® HM was dominant versus twice-daily HM in all countries. CONCLUSIONS: This model demonstrates that OROS® HM is a cost-effective alternative to widely used oral opioids such as SR morphine and CR oxycodone in the management of severe chronic non-malignant and malignant pain in all five countries. It also showed that OROS® HM is less costly and more effective than twice-daily HM in all countries but Denmark in which the ICER in non-malignant pain was minimal.

HEALTH AND ECONOMIC CONSEQUENCES OF PATHOGEN TRANSMISSION RISK IN THE TREATMENT OF HAEMOPHILIA A WITH FACTOR VIII

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OBJECTIVES: Factor concentrates composed of human blood plasma carry the risk of transmitting blood-borne pathogens. This study evaluated health and economic consequences of infection in haemophilia A patients in the event of a novel pathogen emerging that can be transmitted through blood products.

METHODS: A decision analytic model was constructed to explore consequences and costs of new pathogen emergence. The population considered was all patients with haemophilia A requiring Factor VIII prophylaxis in Sweden. The annual risk of a new pathogen emerging was estimated as the average rate of new agent emergence reported by the World Health Organisation. The percentage of the population likely to be infected was varied reflecting uncertainty around reduced use of human proteins in newer factor VIII products. The impact of resulting infections on length and quality of life was estimated using quality adjusted life years, taking mean values for historical infections as a base case. RESULTS: Over 20 years the World Health Organisation reported 30 newly identified diseases, of which 5 were transmissible by transfusion. The annual risk that a new blood-born pathogen will emerge was estimated to be 16.7%. If 5% of patients were infected economic loss was estimated to be 0.05 QALYs and €6000 per patient. If all patients were infected the economic loss was estimated to exceed €100,000 and 1.06 QALYs per patient treated. Over 80% of the economic loss is reduced productivity. The model predictions are sensitive to the expected rate of new pathogen emergence. CONCLUSIONS: New blood-born pathogens emerge frequently. The model estimated that the health and economic consequences of transmission of a new pathogen may be severe. Even at low levels of infection risk, measures to further reduce the likely percentage of