PCN40

YEAR TO YEAR BUDGET IMPACT ANALYSIS OF BIOLOGICAL THERAPIES FOR FIRST-LINE TREATMENT OF METASTATIC COLORECTAL CANCER IN SPAIN

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OBJECTIVES: In real practice, patients are treated along the entire year so that budget simulations should be adjusted to chronological patterns of oncological assistance. Deferred budget impact analysis is undergone in order to assess long run economic implications of clinical decision-making (in the first-line mCRC therapies in Spain). METHODS: As metastatic colorectal cancer diagnosis is not affected by seasonal influences, we have created a mathematical model assuming that a single patient is diagnosed every month and this patient has a 53% possibility to harbor a native liver metastasis. We have assessed the median duration of treatment with cetuximab-based therapy, budget impact for year t=1 begins at month 1 and beyond for patients that receive cetuximab-based therapy, budget impact for year t=1 begins at month 7. The same approach was performed for doublets without any monoclonal antibody. Prices for all drugs in Spain were assumed to represent the best-value for each drug including all possibilities to reduce pharmacys costs. For first line, median duration of therapy reported by randomized trials was used to calculate the final budget. 70kg and 1.7 m were used as reference for patient dose calculations. RESULTS: When K-Ras status is not tested and bevacizumab-based schedules are administered to every patient, annual growth of budget increases by 55-60%. If K-Ras status is analyzed and wild-type patients are treated with cetuximab combinations and mutated patients receive bevacizumab, yearly budget growth amounts to 39-41%. Annual budget growth is minimized (25%) if K-Ras patients are treated with cetuximab combinations and wild-type patients receive bevacizumab. RESULTS: Duration of therapy plays a key role on budget impact estimations from both overall and year to year perspectives. K-Ras based clinical decisions not only optimize outcomes as measured by response rates but also minimize economic implications on annual budget growths.

PCN41

COST-EFFECTIVENESS ANALYSIS OF IMMUNONUTRITION FOR UPPER GASTROINTESTINAL CANCER PATIENTS UNDERGOING SURGERY IN BRITISH HOSPITALS

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OBJECTIVES: Immunonutrition (IN) with arginine has been demonstrated in many randomized clinical trials (RCTs) to decrease the risk of complications and the length of hospital stay (LOS) in cancer patients undergoing gastrointestinal (GI) surgery (Cerantola et al. 2011). This study aims at assessing the cost-effectiveness of IN for upper GI cancer patients undergoing surgery in the National Health System (NHS). METHODS: Clinical data were retrieved from the meta-analysis of Cerantola et al. 2011. Both the decrease in LOS due to IN and the relative risk (RR) of overall complications (Chevronou-Severac et al, 2011) were taken into account. Hospital cost data (upper GI cancer surgical patients) were extracted from the Healthcare Resource Group codes of the NHS Payment by Results 2011/12 and Hospital Episode Statistics 2010/11. The cost of stay based on the LOS for the control group was calculated. Finally a sensitivity analysis of the baseline (control group) complication rate was carried out. RESULTS: The RR of overall complications were 0.69 for pre-operative and 0.62 for peri-operative use of IN. The hospital LOS decreased by 2.42 days for 9 days for peri-operative use of IN. LOS reduced by 4.72 days for IN. The average hospital cost (GI cancer surgery) was £829 per day. Weighted national average cost of stay for patients with complications was £9,766 per patient and £5,421 per patient without complications. Based on the LOS decrease, IN is cost-savings in upper GI surgery compared to controls (saving £1,955 to £2,095 per patient). Even for an initial complication rate as low as 5% in the control group, pre-operative use of IN led to savings. CONCLUSIONS: Immunonutrition is an effective and cost-saving intervention for the NHS: savings up to £1,955 per patient-stay with pre-operative use of IN. Immunonutrition in patients undergoing surgery for upper GI cancer is an efficient intervention for British hospitals, as it decreases LOS, post-surgical complications and hospital costs.

PCN42

COST OF PROSTATE IMAGE-GUIDED RADIATION THERAPY: RESULTS OF A RANDOMIZED TRIAL

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OBJECTIVES: Image-Guided Radiation Therapy (IGRT) is an innovative technique allowing for the non-invasive control of the position of the anatomical target volumes before or during sessions of irradiation. In case of prostate cancer, IGRT allows clinicians to localize the tumor, either with Cone Beam Computed Tomography (CBCT) or by portal imaging with Fiducial Markers (FM). A weekly positioning control is generally carried out. However, daily controls has been recommended in case of Intensity-Modulated Radiation Therapy (IMRT) delivering high dose in the prostate. Therefore, a cost analysis investigating IGRT with CBCT and FM according to the positioning frequency daily versus weekly in prostate cancers was conducted. METHODS: The cost-analysis was performed in a multicenter randomized phase III trial. Patients included received radiotherapy for a localized prostate adenocarcinoma. Cost calculations were strictly based on a micro costing approach according to the hospitals’ point of view. Time horizon included radiation therapy. All costs were given in 2009 euros. Comparisons were performed using Wilcoxon Mann-Whitey test. Uncertainty was reported using sensitivity analyses and probabilistic analysis using a non-parametric bootstrap method. RESULTS: A total of 208 patients were enrolled in seven French centres from January 2007 to May 2011. Protocol deviations reduced the number of patients included in the study to 183. The overall cost of positioning controls (n=29) per patient, compared to weekly controls (n=61, p<0.0001). For the FM, the over cost of daily positioning controls (n=26) reached €187 per patient compared to weekly controls (n=29, p<0.0001). Variations in deprivation periods of the accelerator and time used by the radiotherapists have the highest impact on costs. CONCLUSIONS: The study highlights incremental costs incurred by different frequencies of positioning with IGRT in prostate cancers. Cost-effectiveness studies have to be conducted in order to shed further light on which strategy to focus on based on clinical value.

PCN43

COST ASSESSMENT OF COMPANION DIAGNOSTICS IN BREAST CANCER

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OBJECTIVES: Companion diagnostics (CD) is a new approach to personalised medicines for safer and more efficacious selection of treatments. This review was conducted for cost assessment of CDs in breast cancer (BC). METHODS: Embase® and MEDLINE® databases were systematically searched until June 2012 to identify economic studies on CDs in BC. All economic studies in English language, regardless of design and diagnostic test assessed were included. Eligibility of studies was assessed by two reviewers with any discrepancy reconciled by a third, independent reviewer. RESULTS: A total of 202 studies were retrieved; 24 met predefined inclusion criteria. Fifteen studies assessed cost of Oncotype Dx, three Mammaprint, two Her2test, one IHC, and three both Oncotype Dx and Mammaprint tests. An Irish study reported that an approximate cost-neutrality (0.4% increase in cost) to the health care system on adoption of Oncotype DX test (Lacey 2010). Another study in Canada reported that the introduction of Oncotype DX would result in cost saving of $27.06 in first year and $28.72 in second year (Hassan 2011). The ICER for Mammaprint was estimated as $3,873,922/QALY exhibiting its cost-effectiveness (Kondo 2012). In Israel, Oncotype Dx increased QALY by 0.190 years with $10,770/QALY gained by reducing the chemotherapy disability (Klang 2010). In Australia, cost savings were related in chemotherapy due to Oncotype Dx was estimated to be $2,266/44/4/woman. The cost of assay was estimated to be $4200 with a published utility rate of 0.5, resulting in ICER of $9986/QALY compared without diagnostic test (O’Leary 2010). CONCLUSIONS: The findings from the published data reflects that CDs have a cost-effective and definitely provide reasonable value of life and survival benefits of a more targeted approach to treatment decision-making. Literature is suggestive that using a personalised approach through initial diagnostic tools for BC can help in reduction of chemotherapy usage and cost savings in health care services.

PCN44

COST COMPARISON ANALYSIS OF ANTIBODY THERAPIES IN THE METASTATIC COLORECTAL CARCINOMA (MCC) SETTING

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OBJECTIVES: Due to the increasing cost pressure, it is necessary to rely on cost-effectiveness analyses to assess the three monoclonal antibodies (Mab): Bevacizumab, Cetuximab and Panitumumab in the treatment of colorectal cancer, which differ in their cost structure. Thus, this study aims to compare the costs of approved therapies from the hospital perspective. METHODS: The cost analysis included all direct resources in the course of medication treatment. All relevant direct medical costs associated with the treatment were detected and quantified: drug costs, the antibiotics, medical consumables, personnel costs and KRAs-testing. Furthermore, the number-needed-to-treat (NNT) for the three alternatives was calculated. Additionally, based on the total costs, a cost-effectiveness-depiction represents the additional costs of the overall-survival (OS) per month. RESULTS: The absolute benefit of the add-on-therapy leads to a longer progression-free-survival (FFS) in the treatment-group compared to the control-group. The relative superiority in FFS for Bevacizumab is 82.4, 17.9% for Cetuximab and 20% for Panitumumab. Based on the FFS, the NNT for Bevacizumab accounts to 1,251.02 per month. The cost difference of Bevacizumab compared with Panitumumab amounts to €1,609.19. With regard to the over-cost of daily positioning controls (n=61, p<0.0001). Variations in deprivation periods of the accelerator and probabilistic analysis using a non-parametric bootstrap method. Uncertainty was captured by one-way sensitivity analyses

PCN45

ECONOMIC EVALUATION OF USING BRANDED TAXOTERE® Versus GENERIC DOCETAXEL: BASED ON DECISION TREE MODEL

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OBJECTIVES: To evaluate the cost-effectiveness of prescribing branded Taxotere® to its generic counterpart docetaxel for patients diagnosed