**PCN5**

FIRST-LINE THERAPY FOR ADVANCED BREAST CANCER — COST-EFFECTIVENESS OF ANASTROZOLE VERSUS TAMOXIFEN

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**OBJECTIVE:** New generation nonsteroidal aromatase inhibitors are potent, selective and well-tolerated anti-estrogens that improve survival of advanced breast cancer patients when used as second-line agents. Anastrozole, an aromatase inhibitor, was recently investigated as first-line therapy. Its cost, however, is 10 times higher than the cost of tamoxifen. Consequently the cost-effectiveness of anastrozole is to be investigated.

**METHODS:** We first addressed the cost per month-without-progression with a three-state Markov tree (response; progression; withdrawal) with monthly transitions. The probability of progression was obtained by pooling the data from estrogen-positive women enrolled into the three randomized clinical trials. The monthly rate of withdrawal was assumed to be time-independent and the cost of withdrawal was equivalent to the approximate charge for a thromboembolic event. According to the Italian market, the monthly cost of tamoxifen was $18 and that of anastrozole, $190. No other difference in costs was assumed between the two treatments.

**RESULTS:** Since anastrozole allowed for a gain of 1.77 progression-free months, the resulting marginal cost-effectiveness of anastrozole versus tamoxifen was $1395/month-without-progression. We then calculated the lag time from progression to death and considered the average monthly cost of those patients who progressed while on first-line therapy to be $1000. The cost-effectiveness of anastrozole was thus $19,428/life year saved, and, after adjustment for quality of life, $33,476/QALY. The results were not sensitive to an increase in drug cost of 30%, while they were sensitive to a variation in the relative risk of progression.

**CONCLUSION:** Anastrozole is a cost-effective second line therapy for post-menopausal women with advanced breast cancer and positive for estrogen receptors. It is also a potentially cost-effective first-line hormonal therapy. Both clinical and economic data are needed from cross-over trials to confirm the cost-effectiveness in this indication.

**PCN6**

MODELLING THE COST-EFFECTIVENESS OF DOCETAXEL IN THE SECOND LINE TREATMENT OF NON- small-cell LUNG CANCER (NSCLC)

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**OBJECTIVE:** Until recently, best supportive care (BSC) has been the only option for NSCLC patients who do not respond to first line platinum based chemotherapy. Docetaxel was recently approved by NICE for use in patients with locally advanced or metastatic lung cancer. This study modeled the incremental cost-effectiveness of docetaxel and BSC versus BSC alone, in terms of direct health-care costs per life year gained.

**METHOD:** The model used the results of a published trial, which directly compared docetaxel plus BSC with BSC alone. The difference in mean survival between the docetaxel group and the BSC group was calculated as 3.82 months. Costs principally comprised drug acquisition and administration. In the reported trial result there were no costs for toxicity treatment or any cost offsets, because of incomplete trial data on non-chemotherapy treatments. However, a worst case was modeled, including possible toxicity treatment costs, and a best case, including possible cost offsets. Sensitivity analysis also varied months of life gained by taking the weighted average of the worst two survival results (worst case) and the best two survival results (best case) from four phase II trials. Patient mean body mass and the number of vials used to meet dose requirements were also varied.

**RESULTS:** The model estimated a cost per life year gained of £13,618. (Best case £7,086; worst case £28,905). These cost-effectiveness ratios compare favourably to accepted standards in the UK. Whilst not captured in the model, the published study showed no significant difference between the docetaxel group and the BSC group in terms of quality of life, but all QoL parameters favoured the docetaxel arm.

**CONCLUSION:** Docetaxel is a cost-effective treatment for pre-treated NSCLC in terms of survival, with a non-significant trend to improved quality of life compared to BSC.

**PCN7**

COST OF THE POST-PBPC REINFUSION PERIOD IN HIGH DOSE TREATMENT OF NON-HODGKIN’S FOLLICULAR LYMPHOMA (N-HFL) WITH AND WITHOUT FILGRASTIM

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**OBJECTIVES:** to retrospectively assess the cost of treatment following reinfusion of PBPC after high-dose chemotherapy in N-HFL patients until day 90 post-reinfusion in an open-label, randomised phase III trial comparing the treatment with and without filgrastim. The study was a multi-centre trial conducted in France between 1995–1999.

**METHODS:** Of fifty-one patients enrolled, 27 received filgrastim (F) and 24 were in the control arm (C). Demographic and disease-specific information was collected through the CRF. Costs measured were hospital duration (normal ward and ICU), drugs, transfusions, diagnostics and lab tests. Drug prices were retrieved from the VIDAL 2000 database and on-line BIAM database. Costs of hospitalization and technical procedures were obtained from
one participating centre. Costs were evaluated for the first hospitalization period post-transplant (FP) and for the total duration of the follow-up period (OP). All prices are expressed in FRF 2000 currency. Due to the small sample size non-parametric rank testing was used to determine whether significant differences existed (p < .05, two sided).

RESULTS: Average FP cost per patient was 245,603.4 FRF (SD: 92,950.1) for C and 218,131.8 FRF for FI (SD: 61,711.7). Cost difference was 27,352.9 FRF (11%) in favor of the filgrastim arm (p = .15). Average OP cost per patient was 267,784.9 FRF for C and 244,974.6 FRF for FI. The cost difference did not change during follow-up. Main cost drivers were, as expected, the cost of hospitalization and of IV antibiotic drugs. On average, FI patients leave the ICU 2.8 days earlier than P patients during FP.

CONCLUSION: Use of filgrastim 24 hours post-PBPC following high dose chemotherapy for n-HFL patients could result in important cost reductions, mainly attributable to a shorter hospitalization in ICU and a lower use of IV-antibiotics.

PCN8 COST OF MANAGING SEVERE HYPERURICEMIA AND TUMOUR LYSIS SYNDROME IN HAEMATOLOGIC MALIGNANCIES
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OBJECTIVES: Hyperuricemia (HU) and tumour lysis syndrome (TLS) are important complications leading to increased morbidity and mortality in patients with acute lymphoid or myeloid leukaemia (ALL/AML) and non-Hodgkin lymphoma (NHL). The objective was to calculate incidence and average cost of managing HU and TLS in current daily practice from the payer’s perspective.

METHODS: Seven hundred eighty eight patients, both adults and children, from Belgium, Holland, Spain and the UK, who received induction treatment between 1999 and 2000, were screened retrospectively for the occurrence of HU or TLS. In patients fulfilling predefined diagnostic criteria, HU or TLS-related resource use was recorded and costs drivers were calculated by applying local unit costs.

RESULTS: HU was detected in 18.9% of screened patients, TLS in 5.0% despite 79% prophylaxis. The average cost of HU in the absence of TLS was 672 Euro (SE = 181), of which 218 Euro were for medication and 376 Euro for the hospital stay. The average cost of TLS was 7,342 Euro (SE = 1,412) of which 5,837 Euro was related to additional hospitalization, 719 to interventions (mainly dialysis) and 446 Euro to medication. TLS patients requiring dialysis incurred an average cost of 17,706 Euro compared to 3,887 in non-dialysed TLS cases. Inter-country differences in costs were observed and were solely due to differences in unit costs. Age or underlying malignancy had no significant impact on management costs.

CONCLUSIONS: Rates of HU and TLS observed were at the low end of the range compared to previously published reports in specific indications. There is a large variation in costs, and distributions are highly skewed. Patients developing TLS incur 11 times greater costs than patients with HU in whom development of TLS can be prevented. The main cost driver in TLS patients is the need for interventions (dialysis and haemofiltration) that require ICU admission and extra hospital stay.

PCN9 COST-EFFECTIVENESS OF IMAGE-GUIDED VERSUS BLIND INSERTION OF HICKMAN LINES IN ADULT CANCER PATIENTS BY NURSES
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OBJECTIVE: In the United Kingdom NHS, approximately 200,000 central venous catheters are inserted in adult patients per year. The most frequently inserted central venous catheter is the Hickman line. As the mean cost of a Hickman line insertion is estimated to be £450, the annual cost to the NHS is substantial.

METHODS: A prospective randomised controlled trial was conducted at the Christie NHS Trust (UK) to compare blind versus image-guided approaches to Hickman line insertions. Blind insertions were performed at the patient’s bedside whilst image-guided insertions were performed in the interventional x-ray suite. An incremental cost-effectiveness analysis was carried out alongside the clinical trial from the perspective of the NHS. Main clinical outcome measures included pneumothorax, arterial puncture and catheter tip misplacement. The primary economic outcome of interest was the incremental cost per misplaced catheter tip avoided.

RESULTS: There were no clinically or statistically significant differences in pneumothorax or arterial puncture rates across the blind arm (n = 235) and the image-guided arm (n = 235) of the trial. Catheter tip misplacement occurred in 1% of image-guided insertions and in 14% of blind insertions. However, patient and professional perception of catheter tip misplacement appeared to demonstrate that the difference was statistically significant rather than clinically significant. Economic evaluation results concluded that the total cost of image-guided insertion of Hickman lines (£110,000) was similar to that of blind Hickman-line insertions (£104,000).

CONCLUSIONS: The study shows that the vast majority of Hickman-line insertions can be successfully inserted blind at the bedside by nurses. Nevertheless, image-guided insertions may lead to greater clinical benefits for some groups of patients. Economic evaluation results demonstrate that image-guided insertions are more cost-effective than blind insertions. However, cost-effectiveness of the image-guided approach is limited by the availability of the interventional x-ray suite.