possible, acquisition costs from published sources were applied to the resource use identified for events.

Results: The total costs including drug cost, treatment administration, management of toxicity and of disease progression amounted to £16,701 per patient treated with irinotecan+5FU/FA and £16,009 per patient treated with oxaliplatin+FU/FA. When the difference in cost is related to the clinical benefit of irinotecan, the cost per life year gained amounted to just £2,881. Varying the survival difference for oxaliplatin showed that the cost per life year gained would not rise above £20,000 unless there was a significant survival difference for oxaliplatin over 5FU/FA.

Conclusion: In the treatment of advanced metastatic colorectal cancer in the UK, irinotecan+5FU/FA can be considered to cost-effective versus oxaliplatin+5FU/FA

852 POSTER

Economic evaluation of the clinical management of lung cancer in France

A. Vergnenegre[1], L. Molinier[2], C. Combescure[3], J.P. Daures[3], M.P. Schuller-Lebeau[4], C. Chouaid[5]. [1] *CHU, Service de Pneumologie, LIMOGES, FRANCE;* [2] *Institut Claudius Regaud, CLCC, Toulouse, France;* [3] *Faculté de Médecine, Montpellier, France;* [4] *Laboratoires Aventis, Paris, France;* [5] *CHU St Antoine, Paris, France*

Rationale: The costs of lung cancer care are unknwon in southern european countries, like France. The objective of this study was to assess the overall costs per lung cancer patient.

Setting: A representative sample of institutions in which lung cancer are treated (3 teaching hospitals, 3 public hospitals, 3 private clinics and 2 cancer treatment centers).

Methods: The perspective of the economic study was the payer (French National Insurer). A retrospective study was performed in patients admitted in the selected institutions (from 1998 July, 1st to 1999 June, 30th). Only direct costs were recorded. All the variable direct costs (chemotherapy, radiotherapy, surgery, drugs, hospitalizations, transports) were recorded from the diagnosis to the terminal care or the date of censorus (2000 January, 1st) for each patient. The fixed direct costs were extracted from the french national cost scale for public hospitals and private clinics. Six Markov models were built: extensive SCLC, limited SCLC, surgical NSCLC, non surgical stage I, II NSCLC, stage III NSCLC and metastatic NSCLC. Parameters for the models were estimated from collected data, practical guidelines for lung cancer in France and experts opinions. Markov models were run with a three months interval. The costs were introduced in each time interval. Monte-Carlo simulations were performed to analyse the validity of the results (sensivity analyses) and calculate the 95% confidence interval at 1 and 2 years.

Results: 430 patients were included during the study, according to the epidemiology of lung cancer (79% NSCLC and 21% SCLC). The results are as follows:

Lung cancer (average costs 1999 euros)

	1 year	95% CI	2 years	95% CI
LC	22 073	(5 351-36 423)	25 472	(7 426-48 179)
SCLC	22 633	(10 557-37 508)	24 337	(10 557- 37 508)
NSCLC	21 822	(6 061-36 718)	25 903	(7 693-49 331)

During the first year of care, diagnosis corresponded to 11 to 17%, initial treatment 37 to 70%, adverse events 5 to 17%, relapse 0,5 to 4,5%, terminal care 6 to 18%, transports 6 to 11% according to the histology and stages of the diseases.

Conclusion: These are the first results on the costs of lung cancer in France. Analyses of treatment strategies and comparison of cost-effectiveness results are on going. Complete results for the 6 models will be presented at the meeting.

Supported by a grant from Aventis pharmaceuticals (France)

853 POSTER

A stochastic economic evaluation of Letrozole versus Tamoxifen as a first-line therapy for postmenopausal women with advanced breast cancer

J.D. Kamon[1], T.E.D. Jones[2]. [1] *Health and Safety Laboratory, Sheffield, United Kingdom;* [2] *Novartis Pharmaceuticals UK Ltd, Health Technology Assessment, Surrey, United Kingdom*

Letrozole is a new generation aromatase inhibitor that is a feasible alternative to tamoxifen as the preferred choice of first-line hormonal therapy for patients with advanced breast cancer. This paper presents the results of an economic evaluation comparing letrozole and tamoxifen as a first-line hormonal therapy in postmenopausal women diagnosed with advanced breast cancer. A Markov process was built to describe possible patient pathways from the point of diagnosis, which was populated using patient-specific clinical trial data, data from the existing literature, and expert opinion. Probability distributions were specified for the majority of the input parameters, which represented the uncertainty about their true value. This facilitated the stochastic analysis of the decision model, whereby distributions of the model's outputs (aggregate costs and lifeyears) were estimated that enabled the statistical analysis of the cost-effectiveness results. The baseline results show that letrozole is an extremely cost-effective alternative to tamoxifen as a first-line hormonal therapy with a mean incremental cost per life year gained of £500. Even under the most severe assumptions the incremental cost increases to £12,530, which remains a relatively low cost to pay to gain an additional life year.

854 POSTER

Mapping clinical cancer research by MEDLINE publications in the years 1995-1999

F. Grossi[1], O. Belvedere[1], R. Rosso[2]. [1] *University of Udine, Medical Oncology, Udine, Italy;* [2] *Istituto Nazionale per la Ricerca sul Cancro, Medical Oncology, Genova, Italy*

In this study, we address the geography of clinical cancer research in the years 1995-1999.

A MEDLINE search (http://www.ncbi.nlm.nih.gov) was performed to retrieve scientific papers in clinical oncology reporting phase I, phase II, and phase III studies. The following search strings were used: cancer AND chemotherapy AND phase I [TITL] OR dose finding [TITL]cancer AND chemotherapy AND phase II [TITL]cancer AND chemotherapy AND phase III [TITL] OR randomised [TITL] OR randomized [TITL]. The retrieval was limited to papers published from January 1, 1995 to December 31, 1999. Only studies reporting antiblastic chemotherapy have been considered, either alone or in combination with radiotherapy, surgery, immunotherapy. The country was assigned according to the address field in the MEDLINE record. For each country, the total number of published papers, the total impact factor (IF), and the mean IF were determined. Similar calculations were performed to compare the European Union vs. North America. The performance of cooperative groups was also evaluated. The attribution of a publication to a group was determined according to the mention of the group in the paper title.

3,247 papers were identified which report phase I, phase II, or phase III clinical trials in oncology and have been published between 1995 and 1999. Here, we consider the 25 countries which score at least ten records matching our search strings published in the years 1995-1999. These 25 countries account for 2,818 papers, corresponding to 87% of the retrieved papers. The United States ranks first by number of published papers, accounting for 35.5% of the world's papers. Italy is second (8.9% share), followed by the United Kingdom (6.6%), and France (5.9%). Investigators at North American Institutions published a higher number of papers compared to their European colleagues (1,242 vs. 1,254). Moreover, the mean I.F. of North American papers is higher than the papers with a European address (3.55 vs. 3.18). Interestigly, the majority of phase I studies were performed in North America, while most of phase III studies were performed in Europe. EORTC is the most active cooperative group.

Taken together, these results provide information on the geography of clinical cancer research worldwide, which may reflect the human and economic resources involved in this field.

855 POSTER

Therapeutic strategies and costs for patients with head and neck squamous cell carcinoma

C. Schmitt[1], J. Armand[2]. [1] *MDS Pharma Services, Health Economics, Sevres, France;* [2] *Institut Gustave Roussy, Service d'Oncologie, Villejuif, France*

Objective: To describe the therapeutic strategies that are currently applied in treating Head and Neck Squamous Cell Carcinoma (HNSCC) in France and to estimate their costs.

Methods: A retrospective patient charts review was conducted in 82 hospitals spread all over France and representative of the different types of centres treating HNSCC. Patients were classified into 4 groups: patients with resected primary tumors (P-RES; N = 107), patients whose primary tumor was not resected (P-NR; N = 111), patients with locoregional recurrence only

(REC-L; N = 43) and patients with metastatic recurrence with or without locoregional recurrence (REC-M(L); N = 24). Data on treatments were collected during a one-year follow-up. Cost evaluation was made from the point of view of the French National Health Insurance.

Results: Primary tumor of the P-RES group was treated by surgery only in 18% of patients; 80% had radiotherapy, either alone (60%) or in combination with chemotherapy (20%). In the P-NR group, nearly all patients had radiotherapy, either alone (42%) or in combination with chemotherapy (48%). The mean global cost per patient was higher in group P-RES (FF 117,000 versus FF 73,000) because of the impact of surgery. Costs of radiotherapy were FF 32,000 in group P-RES versus FF 42,000 in group P-NR. Costs of chemotherapy treatments were about FF 35,000 per patient treated with chemotherapy in either group.

A majority (60%) of recurrent patients received only one type of treatment (mostly chemotherapy). Different regimens of mono- and combination chemotherapy were analysed. Association of treatments is more frequent (49%) when recurrence is only locoregional: the most frequent association is radiotherapy + chemotherapy (30%), with (9%) or without (21%) surgery. Chemotherapy alone prevails in presence of metastases. The mean global cost per patient was higher for patients with locoregional recurrence (L = FF 91,000; L+M = FF 104,000), because of the impact of surgery. As for patients with metastatic recurrence, mean global hospital costs was FF 78,000, chemotherapy accounting for about 74% of this amount. The mean cost of all chemotherapy treatments was FF 58,000, whatever the type of recurrence.

Conclusion: Costs assessment for patients with HNSCC becomes critical as increasing numbers of patients receive chemotherapy. Proper distribution of Health Care budget will allow to achieve utilization of new therapeutic scenarios.

856 POSTER

Gemzar in the treatment of pancreatic cancer in the UK: An economic evaluation

D. Stephenson[1], N. Botwood[1], J. McKendrick[1], M. Aristides[2], M. Lees[2], N. Maniadakis[3], W. Wein[3]. [1] *Eli Lilly, Basingstoke;* [2] *M-TAG, London;* [3] *Eli Lilly, Erl Wood, UK*

Purpose: This study reports on an economic evaluation of Gemzar relative to 5-FU, for the treatment of pancreatic cancer.

Methods: The perspective is that of the UK-NHS. Data were derived from a clinical trial (Burris 1998). Total treatment costs estimates are based on chemotherapy, infusions, hospitalisations, visits to health care professionals and concomitant medications. Resource utilisation data, derived from the trial, were combined with unit cost data from various UK sources. Extensive sensitivity analysis was performed to test the robustness of the results.

Results: Total treatment cost per patient on Gemzar was estimated at £3,569 and on 5-FU at £1,262 – largely attributed to drug costs. Gemzar was associated with an incremental gain of 0.188 life years, 0.116 progression-free-life-years and 19% of patients could be classifed as clinical benefit responders. As such, relative to 5-FU, the incremental cost-per-clinical-benefit-responder with Gemzar is £12,172, the incremental cost-per-life-year-gained is £12,206 and the incremental cost-per-progression-free-life-year gained is £19,888. Sensitivity analyses showed that the results did not vary significantly with changes of the parameters. When 5-FU is administered by continuous infusion, the incremental cost-effectiveness of Gemzar is improved.

Conclusions: This economic evaluation demonstrates that Gemzar is a cost-effective treatment compared to 5-FU in the treatment of pancreatic cancer in the context of the UK NHS.

857 POSTER

Economic evaluation of Gemzar/cisplatin relative to other cisplatin based treatments for non small cell lung (NSCLC) cancer in the UK

N. Botwood[1], J. McKendrick[1], M. Aristides[2], M. Lees[2], N. Maniadakis[3], W. Wein[3], D. Stephenson[1]. [1] *Eli Lilly, Basingstoke;* [2] *M-TAG, London;* [3] *Eli Lilly, Erl Wood, UK*

Purpose: This study reports on an economic evaluation of Gemzar/cisplatin (GC) relative to: mitomycin/ifosfamide/cisplatin (MIC), etoposide/cisplatin (PE) and mitomycin/vinblastine/cisplatin (MVP).

Methods: The study perspective is that of the UK-NHS. Data were derived from comparative clinical trials (Crino 1999, Cardenal 1997, Costa 2000). Costing is based on: chemotherapy, infusion, hospitalisations, visits to health care professionals and concomitant medications. Costs were assesses over a one year period and outcomes were based on data from the clinical trials

Results: In the first setting the cost-per-patient on GC was £5,101 and on MIC £4,481. Overall tumour response rates were 39.6% and 27.6% respectively. Thus, the incremental cost-per-tumour-response of GC was £5,169. In the second setting, the cost on GC was £4,142 compared to £3,762 on PE. Overall tumour response was 40.6% and 21.9% and progression-free life years 0.575 and 0.358. Thus, the incremental cost-per-tumour-response of GC was £2,032 and the incremental cost-per-progression-free-life-year £1,751. In the final setting, the cost of GC was £5,084 and of MVP £4,004. Overall tumour response was 54.0% and 36.7% and one year survival 36% and 17%. The incremental cost-per-tumour-response of GC was £6,240 and the incremental cost-per-survivor-at-one-year was £5,681. In extreme changes to underlying variables the above ratios vary from dominance to a maximum of £14,000.

Conclusions: These results demonstrate that G/C represents a relatively cost-effective treatment for NSCLC with ratios comparable or below those of therapies currently in use within the NHS.

858 POSTER

An economic evaluation of different chemotherapy regimens used in the treatment of advanced colorectal cancer (ACRC) in a Cooperative Group

B. Massutí[1,2], A. Abad[2], A. Antón[2], E. Aranda[2], A. Carrato[2], A. Cervantes[2], M. Navarro[2], J. Tabernero[2], E. Díaz-Rubio[2]. *TTD Spanish Cooperative Group;* [1] *Hospital General Universitario Alicante, Medical Oncology, Alicante, Spain;* [2] *TTD Spanish Cooperative Group for Treatment Digestive Tumors*

Background: Significant changes appeared in the field of chemotherapy (CT)for ACRC in recent years. New drugs and combination schedules has been introduced. Effects on costs are yet not completely accounted. Economic evaluation is needed for new approaches and new drugs.

Purpose: Economic evaluation model applied to the costs of treating ACRC in Spain in Oncology Units Hospital-based. Treatment schedules of 6 consecutive Phase II multicenter trials has been analysed.

Method: Total monthly amount has been calculated in pesetas (pts) and euros. Standarized dose for 1.7 m2 body surface has been used. The economic model includes: drug cost (per mg), pumps and infusional devices (including surgical implant procedure), blood tests, X-rays, costs of preparation specific drugs, staff costs (nurse-time for administration and doctor-time for visit of the patient). The public center medium salary has been used. The costs has not been taken in account are: premedication drugs, treatment of complication/secondary effects, refunds and travel expenditures.

Results: Monthly drug-cost for treating ACRC can vary form 6.654 pts (39.9 euros) to 268.524 pts (1613.8 euros)using different schedules that has been published. Our model has been applied to 6 different CT-regimens testes in consecutive Phase II trials in the setting of the Cooperative Group: 5-Fluorouracil (5FU) plus low-dose Folinic Acid (FA) (Mayo schedule), 5FU continuous infusion (c.i.)48 h weekly (TTD schedule), 5FU c.i. weekly plus Oxaliplatin (OHL-P)biweekly, 5FU c.i. plus CPT-11 both weekly, Tegafur-Uracil (UFT) plus F.A. by mouth (p.o.) and UFT p.o. as single agent. The monthly costs for every schedule using this model are: 45.925 pts/276 euros for 5FU bolus plus FA; 103.346 pts/621.1 euros for 5FU c.i.; 315.715 pts/1897.4 euros for 5FU c.i. plus OHL-P; 265.822 pts/1597.6 euros for 5FU plus CPT-11; 77.192 pts/468.2 euros for UFT plus FA and 41.008 pts/246.4 euros for UFT.

Conclusions: The new drugs and schedules cause an incremental costs for treating ACRC. The drug-cost can vary 40x. The present model including other charges limit the variability to 7x. These analyses open possibilities to identify other relevant costs and to reduce this costs modifying administration procedures and follow-up. The results of cost-benefit analysis based on the modeled-results (time to progression and survival) of the analysed Phase II trials will be presented.

859 POSTER

Pharmacoeconomic analysis of advanced non-small cell lung cancer treatment with docetaxel-cisplatin, paclitaxel-cisplatin and paclitaxel-carboplatin

C. Rubio-Terrés[1], J.L. Tisaire[1], S. Kobina[2], A. Moyano[3]. [1] *Aventis Pharma, S.A., Scientific Department, Madrid, Spain;* [2] *Aventis Pharma, HERO Department, Bridgewater, USA;* [3] *Hospital Ramón y Cajal, Medical Oncology Department, Madrid, Spain*

Purpose: To compare the efficiency (the evaluation of efficacy in relation