

AMPLIACIÓN

Table 1. Standard clinical management strategies. Results from the systematic review

| Reference(s) | Standard clinical management strategy (baseline comparator) |
|---|--|
| Kosuda et al Dietlein et al Bradbury et al Verboom et al Valk et al | Standard strategy 1 (S1). - TNM staging (mediastinal staging in Dietlein et al) using CT, followed by mediastinoscopy (Ms-t) in all patients independently of the result of CT. Ms-t-ve patients (usually patients with no abnormal mediastinal lymph nodes > 10mm, although this is not specified in many articles!) go for tumour resection (thorachotomy) and Ms-t+ve patients are referred to non-surgical treatment (chemotherapy and/or radiotherapy) |
| Scott et al Gambhir et al | Standard strategy 2 (S2). - Mediastinal staging using CT, followed by Ms-t only in CT+ve patients. CT-ve patients are referred straight to surgery. Of all CT+ve patients that undergo mediastinoscopy, MS-T-ve patients are referred to surgery and MS-T+ve patients are referred to non-surgical treatment |
| Von Schulthess et al | Standard strategy 3 (S3). - TNM staging using CT and bone scanning |

Table 2. Intervention clinical management strategies. Results from the systematic review.

| Reference(s) | PET-including clinical management strategy (intervention). |
|---|---|
| Dietlein et al Bradbury et al | Intervention strategy 1 (I1). - TNM staging (Mediastinal staging in Dietlein et al) with CT followed by PET in all patients. Independently of the results of CT, PET-ve patients go straight to surgery. PET+ve patients go all to non-surgical treatment. |
| Scott et al Dietlein et al Bradbury et al | Intervention strategy 2 (I2). - TNM staging (mediastinal staging in Dietlein et al) with CT followed by PET in all patients. Independently of the results of CT, PET-ve patients go straight to surgery and PET+ve patients undergo Ms-t, followed by surgery in Ms-t-ve patients and non-surgical treatment in Ms-t+ve patients (Scott, Dietlein). One variation of this strategy sends PET N0/N1 M1 patients straight to non-surgical treatment. |
| Dietlein et al | Intervention strategy 3 (I3). - TNM staging (Mediastinal staging in Dietlein et al) with CT followed by PET in CT-ve patients only. CT+ve patients go straight to non-surgical treatment. CT-ve patients are referred to non-surgical treatment if PET is +ve, and to surgery if PET is -ve. |
| Scott et al | Intervention strategy 4 (I4). - Mediastinal staging with CT followed by PET in CT-ve patients only. CT+ve patients go straight to non-surgical treatment. CT-ve patients are referred to Ms-t if PET is +ve, followed by non-surgical treatment in Ms-t+ve patients and surgery in Ms-t-ve patients. If PET is -ve, patients are referred straight to surgery. |
| Dietlein et al | Intervention strategy 5 (I5). - Mediastinal staging with CT followed by PET in all patients. In patients that are both CT-ve and PET+ve, Ms-t is performed followed by surgery in Ms-t-ve patients and non-surgical treatment in Ms-t+ve patients. For all other categories, independently of CT results, PET+ve patients undergo non-surgical treatment and PET-ve patients go to surgery. |
| Bradbury et al | Intervention strategy 6 (I6). - TNM staging with CT followed by PET in all patients. Patients that are both CT+ve and PET-ve undergo MS-T (aswell as patients that are both CT-ve and PET+ve), followed by surgery in Ms-t-ve patients and non-surgical treatment in Ms-t+ve patients. |
| Scott et al | Intervention strategy 7 (I7). - Mediastinal staging with CT followed by PET in all patients. MS-T is performed on all patients (followed by non-surgical treatment or surgery) except those that are both CT-ve and PET-ve, who are referred straight to surgery. |
| Gambhir et al | Intervention strategy 8 (I8). - Mediastinal staging using PET followed by CT in all patients. PET+ve patients all undergo Ms-t independently of CT results, followed by non-surgical treatment for Ms-t+ve and surgical treatment for Ms-t-ve patients. |
| Gambhir et al | Intervention strategy 9 (I9). - Mediastinal staging using PET followed by CT in all patients. Patients both PET-ve and CT-ve go straight to surgery. Patients that are both PET-ve and CT+ve (or PET+ve and CT-ve) go to MS-T (followed by non-surgical treatment if Ms-t+ve or surgery if Ms-t-ve). Patients both CT+ve and PET+ve go straight to non-surgical treatment. |
| Bradbury et al | Intervention strategy 10 (I10). - TNM staging with CT followed by MS-T in all patients. Ms-t-ve patients go to PET, followed by surgery if PET-ve and non-surgical treatment if PET+ve. Ms-t+ve patients are referred straight to non-surgical treatment. |
| Von Schulthess et al | Intervention strategy 11 (I11). - PET and CT only if PET indicates operable disease (no further details are given). |
| Verboom et al | Intervention strategy 12 (I12). - Conventional work-up and PET (no further details are given). |

Table 3. Evidence for increased effectiveness using PET in the clinical management of NSCLC patients. Results from the literature review.

| Study | Source of effectiveness data | Outcomes with each strategy | Comments regarding evidence for increased effectiveness. |
|----------------------|--|---|---|
| Verboom et al | Clinical trial (n=188) | Futile surgery (I12) = 21% Futile surgery (S1) = 41% (p=0.003) | Strong evidence. |
| Valk et al | Clinical series (n=99) | 15 thoracotomies avoided due to PET finding 6 non-surgical treatments avoided due to PET findings | No p-values or C.I.s given. No sample size necessary for detection of significant effect reported. |
| Von Schultness et al | 2 studies in the literature | - PET staging was accurate, in detecting N3 in 4 of 65 patients, which were understaged as N2 disease with CT. - Unsuspected metastases were identified with PET in 14 out of 95 patients (...) 9 of those 14 patients were initially diagnosed as N0/N1 or N2 disease (...) Only with the PET was the disease recognised as inoperable. | Weak evidence due to: - insufficient information on statistical significance of results provided. - Small sample sizes with no power calculations. |
| Dietlein et al | Literature review | LE under each strategy: CT+M (S1): 3.308 yrs CT+PET (I3): 3.322 yrs CT+PET+M (I2): 3.328 yrs CT+PET+M (I5): 3.282 yrs CT+PET (I1): 3.255 yrs Max LE gain= LE(I2)-LE(S1)= 0.02 yrs | Weak evidence (Max LE gain = 1 week.) Patients included all had normal size Ms-tiastral lymph nodes (which excludes 75% of patients with NSCLC). Thus, limited external validity. |
| Scott et al | Literature review | LE under each strategy: CT+ M (S2): 4.921 yrs CT+M+PET (I4): 4.928 yrs CT+M+PET (I7): 4.930 yrs CT+M+PET (I2): 4.928 yrs Max LE gain= LE(I7)-LE(S2)= 0.009 yrs | Weak evidence (Max LE gain < 1 week.) |
| Gambhir et al | Literature review | LE gain (I8 – S2) = 2.96 days | Weak evidence |
| Kosuda et al | Literature review and clinical series (n=56) | LE under each strategy: CT alone (S3): 10.33 yrs/patient CT+ FDG PET (I11): 10.94 yrs/patient LE gain (I11-S3): 0.61 yrs | No external validity: - Standard practice in this study not used anywhere else. - 30% patients included not NSCLC patients |
| Bradbury et al | Literature review | CT+ve patients: CT+M (S1): 71.86 QALYs CT+M+PET (I10): 66.03 QALYs CT+PET+M (I6): 66.16 QALYs CT+PET+M (I2): 72.11 QALYs CT+PET (I1): 66.17 QALYs QALE (I2)-QALE (S1)= 0.15 QALYs CT-ve patients: CT+M (S1): 189.63 QALYs CT+PET+M (I2): 190.96 QALYs CT+PET (I1): 181.97 QALYs CT+PET +M (I6): 181.39 QALYs CT+M+PET (I10): 181.28 QALYs QALE (I2)-QALE(S1)= 1.33 QALYs | CT+ve patients: QALYs gained with most effective intervention strategy in a cohort of 100 patients = 0.15 QALYs CT-ve patients: QALYs gained with most effective intervention strategy in a cohort of 100 patients = 1.33 QALYs Weak evidence of increased effectiveness. |

Table 4. Incremental cost-effectiveness ratios from the literature review. Outcome measure: Life Expectancy (LE).

| Study | ICER |
|----------------|--|
| Dietlein et al | ICER (I3-S1) = 142 EUR per life year saved ICER (I2-S1) = 11,100 EUR per lys ICER (I2-I3) = 36,667 EUR per lys ICER (I5-I3) = 15,325 EUR per lys ICER (I5-I2) = 18,109 EUR per lys ICER (I1-I3) = 15,716 EUR per lys ICER (I1-I2) = 17,438 EUR per lys |
| Scott et al | ICER (I4-S2) = \$25,286 per lys ICER (I7-I4) = \$70,889 per lys ICER (I2-I7) = \$137,857 per lys. |
| Gambhir et al | Not reported |
| Kosuda et al | Not reported |

Table 5. Patient types for which initial health state valuations were elicited using EQ-5D (Spanish tariff).

| Type 1 | Type 2 | Type 3 | Type 4 |
|--|---|---|--|
| <p>Patients with a weight loss of at least 10 kg prior to Ms-tiastinal staging and one or more of the following symptoms: hemoptysis persistent cough difficulty breathing chest pain fever</p> | <p>Patients with a weight loss of at least 10 kg prior to Ms-tiastinal staging and none of the following symptoms: hemoptysis persistent cough difficulty breathing chest pain fever</p> | <p>Patients with no weight loss prior to Ms-tiastinal staging and one or more of the following symptoms: Hemoptysis persistent cough difficulty breathing chest pain fever</p> | <p>Patients with no weight loss prior to Ms-tiastinal staging and none of the following symptoms: hemoptysis persistent cough difficulty breathing chest pain fever</p> |

Table 6. Quality of life profiles modelled for each treatment.

| Patient referred to surgery (N0/N1 disease) | Patient referred to non-surgical treatment (N2/N3 disease) |
|---|---|
| Profile 1: no surgical complications, no chemotherapy/radiotherapy | Profile 5. Patient treated with chemotherapy and radiotherapy |
| Profile 2: no surgical complications, patient given chemotherapy and radiotherapy | |
| Profile 3: surgical complications, no chemotherapy/radiotherapy | |
| Profile 4: surgical complications, patient given chemotherapy and radiotherapy | |

Table 7. Quality of life profiles developed for each treatment. Source: REFERENCE and expert opinion.

| QOL profiles | Estimated change in QOL | Algebraic formula |
|--------------|--|--|
| Profile 1 | Surgery induces a fall in QOL of 0.05 from the initial health state (U_0) during the first month. QOL remains stable for the rest of the time except the last 6 months of life, during which QOL drops to 0.2. | QALYs (Profile 1): $1/12 \times (U_0 + (U_0 - 0.05) \times (LE - 7) + (0.2 \times 6))$ |
| Profile 2 | Same as Profile 1 except that chemotherapy /radiotherapy induce a drop in QOL of 0.4 during the 4 months of non-surgical treatment. After non-surgical treatment, QOL rises by .4 until the last 6 months of life, in which QOL drops to 0.2 | QALYs (Profile 2): QALYs (Profile 1) – $4/12 \times 0.4$ |
| Profile 3 | Same as Profile 1 except that complications induce a drop in QOL to 0 during the first month after surgery | QALYs (Profile 3) $1/12 \times (U_0 + (U_0 - 0.05) \times (LE - 6) + (0.2 \times 6))$ |
| Profile 4 | Same as Profile 3 with the addition of changes in QOL produced by Profile 2 | QALYs (Profile 4): QALYs (Profile 3) - $4/12 \times 0.4$ |
| Profile 5 | Chemotherapy induces a fall in QOL of 0.4 after 1 month in the initial health state, and remains stable for the 4 months of non-surgical treatment. It then rises by 0.2 until the last 6 months of life, during which QOL drops to 0.2 | QALYs (Profile 5): $1/12 \times (U_0 + 4 \times (U_0 - 0.4) + (U_0 - 0.2) \times (LE - 11) + 0.2 \times 6)$ |

Table 8. Departments from which average resource consumption was obtained for the alternative staging procedures and treatments. All services except PET Center are in hospital 12 de Octubre.

| Resource Consumption | Procedures/treatments | | | | | |
|-------------------------|-----------------------------|---------------------------|-----|-----------------------------|-----------------------|-------------------------------------|
| | MS-T | CT | PET | Surgery | Chemotherap | Radiotherapy |
| Materials | Thoracic surgery department | Radiodiagnosis Department | NA | Thoracic surgery Department | Oncology Department | Oncological radiotherapy Department |
| Pharmaceutic alproducts | | | | | | |
| Personnel time | | | | | | |
| Hospital stay | | | | | | |
| Overheads | Accounting department | Accounting department | | Accounting department | Accounting department | Accounting department |
| Capital depreciation | Not applicable | | | Not applicable | Not Applicable | |

Table 9. Departments from which unit costs were obtained for the alternative staging procedures and treatments. All services except PET Center are in hospital H.

| Resource Consumption | Procedures/treatments | | | | | |
|-------------------------|-----------------------|-----------------------|-----|-----------------------|-----------------------|-----------------------|
| | MS-T | CT | PET | Surgery | Chemotherapy | Radiotherapy |
| Materials | Supplies department | | NA | Supplies department | | |
| Pharmaceutical products | Hospital pharmacy | | | Hospital pharmacy | | |
| Personnel time | Personel department | | | Personel department | | |
| Hospital stay | Accounting department | Accounting department | | Accounting department | Accounting department | Accounting department |
| Overheads | | | | Accounting department | Accounting department | |
| Capital depreciation | Not applicable | | | Not applicable | Not applicable | |

Table 10. Allocation of overhead costs and capital costs across treatments/procedures

| Procedure/treatment | Overhead cost allocation | Capital depreciation allocation |
|---------------------|--|--|
| MS-T | Fixed costs were allocated per patient-day spent in the thoracic surgery ward | Not applicable |
| CT | Fixed costs were allocated per CT procedure performed in the radiodiagnosis department | Equivalent annual cost of CT equipment (no resale price, interest rate 5%) was divided into number of CTs performed annually |
| PET | Fixed costs were allocated per PET procedure performed in the PET Center | Equivalent annual cost of PET cyclotron equipment (no resale price, interest rate 5%) was divided into number of PETs performed annually |
| Surgery | Fixed costs were allocated per patient-day spent in the thoracic surgery ward | Not applicable |
| Chemotherapy | Fixed costs were allocated by patient treated in the oncology ward | Not applicable |
| Radiotherapy | Fixed costs were allocated by patient treated in the oncological radiotherapy department | Equivalent annual cost of accelerator equipment (no resale price, interest rate 5%) was divided into number of patients treated annually |

Table 11. Baseline values (range) for all variables in the decision tree model.

| Variable | Baseline value (range for sensitivity analysis) | Variable | Baseline value (range for sensitivity analysis) |
|----------------------------|--|--|---|
| ProbMS-Tpos | 0.27 (0.2-0.36) | CostMS-T | 626 (313-918) |
| ProbCTpos | 0.48 (0.39-0.57) | CostCT | 582 (291-873) |
| ProbCTorPETpos | 0.58 (0.47-0.66) | CostPET | 450 (450-900) |
| ProbMS-TposCTpos | 0.49 (0.36-0.62) | CostSurgery | 3,938 (1,969-5,907) |
| ProbMS-TposCTorPETpos | 0.43 (0.32-0.55) | Cost Chemotherapy | 6383 (3,191-9,574) |
| ProbSmortMS-Tneg | 0.08 (0.04-0.16) | Cost Radiotherapy | 5836 (2,918-8,754) |
| ProbSmortCTposMS-Tneg | 0.16 (0.05-0.33) | Costs below are derived from costs above using simple arithmetic formulae (range of values not available from DATA software) | |
| ProbSmortCTneg | 0.04 (0.01-0.12) | | |
| ProbSmortCTorPETposMS-Tneg | 0.16 (0.07-0.31) | | |
| ProbSmortCTandPETneg | 0.02 (0.001-0.01) | CostMs-tqr | 12,845 |
| QMs-tqr | 0.52 (0.03-2.20) | CostMs-tss | 6,118 |
| QMs-tss | 2.78 (0.05-6.20) | CostMs-tds | 4,564 |
| QMs-tds | 0 (0) | CostctMs-tqr | 13,427 |
| QctMs-tqr | 0.58 (0.03-2.20) | CostctMs-tss | 9,712 |
| QctMs-tss | 1.78 (0.07-4.33) | CostctMs-tds | 5,146 |
| QctMs-tds | 0 (0) | Costctss | 6,388 |
| Qctss | 3.07 (0.05-3.20) | Costctds | 4,520 |
| Qctds | 0 (0) | CostctpetMs-tqr | 13,877 |
| QctpetMs-tqr | 0.47 (0.03-1.60) | CostctpetMs-tss | 9,375 |
| QctpetMs-tss | 1.83 (0.07-4.33) | CostctpetMs-tds | 5,596 |
| QctpetMs-tds | 0 (0) | Costctpetss | 6,757 |
| Qctpetss | 3.22 (0.05-6.20) | Costctpetds | 4, 970 |
| Qctpetds | 0 (0) | | |

Table 12. Cost-effectiveness analysis.

| Strategy | Cost (EUR) | Incremental cost (EUR) | Effectiveness (QALYs) | Incremental Effectiveness (QALYs) | ICER (EUR/QALY) |
|----------|------------|------------------------|-----------------------|-----------------------------------|-----------------|
| SCM | 7843.7 | | 2.007 | | |
| IS1 | 8639.6 | 795.9 | 2.035 | 0.028 | 28,904 |
| IS2 | 9183.5 | 543.9 | 1.951 | -0.084 | Dominated |

Table 13. One-way sensitivity analysis. ICERs at minimum and maximum values for probabilities, QALYs and costs

| Variable | Minimum value: Result | Maximum value: Result |
|------------------------------------|--|---|
| ProbMS-Tpos | 0.2: IS1 and IS2 dominated by SCM | 0.36: ICER (IS1-SCM) = 850 EUR/QALY IS2 dominated by IS1 |
| ProbCTpos | 0.39: ICER (IS1-SCM) = 1,812 EUR/QALY IS2 dominated by IS1 | 0.57: IS1 and IS2 dominated by SCM |
| ProbCTorPETpos | 0.47: Extended dominance of strategy IS1 by SCM and IS2. ICER (IS2-SCM) = 4,000 EUR/QALY | 0.66: ICER (IS1-SCM) =28,904 EUR/QALY IS2 dominated by SCM and IS1 |
| ProbSmortMS-Tneg | 0.04: Strategies IS1 and IS2 dominated by SCM | 0.16: ICER (IS1-SCM) = 4,669 EUR/QALY IS2 dominated by SCM and IS1 |
| Prob SmortCTposMS-Tneg | 0.05: ICER (IS1-SCM) = 12,176 EUR/QALY IS2 dominated by SCM and IS1 | 0.33: IS1 and IS2 dominated by SCM |
| ProbSmortMS-Tneg | 0.04: IS1 and IS2 dominated by SCM | 0.16: ICER (IS1-SCM) = 4,670 EUR/QALY IS2 dominated by IS1 |
| Prob SmortCTorPETpos MS-Tneg | 0.07: ICER (IS1-SCM) = 28,904 EUR/QALY IS2 dominated by IS1 | 0.31: ICER (IS1-SCM) =28,904 EUR/QALY IS2 dominated by IS1 |
| Prob SmortCTandPET neg | 0.001: ICER (IS1-SCM) = 28,904 EUR/QALY IS2 dominated by IS1 | 0.01: ICER (IS1-SCM) =28,904 EUR/QALY IS2 dominated by IS1 |
| CostMS-T | 313 EUR: ICER (IS1-SCM) = 27,180 EUR/QALY IS2 dominated by IS1 and SCM | 938 EUR: ICER (IS1-SCM) =30,621 EUR/QALY IS2 dominated by IS1 and SCM |
| CostCT | 291 EUR: ICER (IS1-SCM) = 18,336 EUR/QALY IS2 dominated by IS1 and SCM | 873 EUR: ICER (IS1-SCM) =39,471 EUR/QALY IS2 dominated by IS1 and SCM |
| CostPET | 450 EUR: ICER (IS1-SCM) = 28,904 EUR/QALY IS2 dominated by IS1 and SCM | 900 EUR: ICER (IS1-SCM) =28,904 EUR/QALY IS2 dominated by IS1 and SCM |
| CostSurgery | 1,969 EUR: ICER (IS1-SCM) = 26,415 EUR/QALY IS2 dominated by IS1 and SCM | 5907 EUR: ICER (IS1-SCM) =31,392 EUR/QALY IS2 dominated by IS1 and SCM |

Table 13 (cont).

| Variable | Minimum value: Result | Maximum value: Result |
|----------------------|---|--|
| Cost Chemotherapy | 3,191 EUR: ICER (IS1-SCM) = 29,516 EUR/QALY IS2 dominated by IS1 and SCM | 9,574 EUR: ICER (IS1-SCM) = 28,291 EUR/QALY IS2 dominated by IS1 and SCM |
| Cost Radiotherapy | 2,918 EUR: ICER (IS1-SCM) = 27,619 EUR/QALY IS2 dominated by IS1 and SCM | 8,754 EUR: ICER (IS1-SCM) = 29,188 EUR/QALY IS2 dominated by IS1 and SCM |
| QMs-tqr | 0.03 QALYs: ICER (IS1-SCM) = 4,979 EUR/QALY IS2 dominated by IS1 and SCM | 2.20 QALYs: IS1 and IS2 dominated by SCM |
| QctMs-tss | 0.07 QALYs: IS1 and IS2 dominated by SCM | 4.33 QALYs: ICER (IS1-SCM) = 1,442 EUR/QALY IS2 dominated by IS1 and SCM |
| QctMs-tqr | 0.03 QALYs: IS1 and IS2 dominated by SCM | 2.20 QALYs: ICER (IS1-SCM) = 1,948 EUR/QALY IS2 dominated by IS1 and SCM |
| Qctss | 0.05 QALYs: IS1 and IS2 dominated by SCM | 3.20 QALYs: ICER (IS1-SCM) = 4,708 EUR/QALY IS2 dominated by IS1 and SCM |
| QctpetMs-tqr | 0.03 QALYs: ICER (IS1-SCM) = 28,904 EUR/QALY IS2 dominated by IS1 and SCM | 1.60 QALYs: Extended dominance of IS1 by SCM and IS2 ICER (IS2-SCM) = 5,951 EUR/QALY |
| QctpetMs-tss | 0.07 QALYs: ICER (IS1-SCM) = 28,904 EUR/QALY IS2 dominated by IS1 and SCM | 4.33 QALYs: Extended dominance of IS1 by SCM and IS2 ICER (IS2-SCM) = 2,101 EUR/QALY |
| Qctpetss | 0.05 QALYs: ICER (IS1-SCM) = 28,904 EUR/QALY IS2 dominated by IS1 and SCM | 6.2 QALYs: Extended dominance of IS1 by SCM and IS2 ICER (IS2-SCM) = 1,145 EUR/QALY |

Appendix. Estimated costs per procedure. Perspective: hospital H12X

ESTIMATED COST OF PERFORMING ONE CT SCAN (EUROS 2003)

| 1.- Materials | units consumed | unit cost | total cost |
|-----------------------------------|-----------------------|-----------------------------|-------------------|
| Film plaque | 6 | 85.91 | 515.46 |
| intravenous set | 4 | 0.22 | 0.88 |
| TOTAL MATERIAL | | | 516.33 |
| 2.- Medication | units consumed | unit cost | total cost |
| Optiray 300 ionic contrast 100 ml | 1 | 37.47 | 37.47 |
| TOTAL MEDICATION | | | 37.47 |
| 3.- Personnel time | hours | salary per hour | total cost |
| Senior radiologist | 0.3 hrs | 16.76 | 5.03 |
| Nurse | 0.3 hrs | 6.94 | 2.08 |
| Radiology technician | 0.3 hrs | 7.60 | 2.28 |
| TOTAL PERSONNEL TIME | | | 9.39 |
| 4.- Overhead costs | number of CTs | overhead cost per CT | total cost |
| | 1 | 6.38 | 6.38 |
| TOTAL OVERHEAD | | | 6.38 |
| 5.- Capital costs | number of CTs | depreciation per CT | total cost |
| | 1 | 12.22 | 12.22 |
| TOTAL CAPITAL | | | 12.22 |
| TOTAL CT | | | 581.79 |

*The cost of performing one PET scan was not calculated as a bottom-up cost, since Hospital H pays a fixed price for each PET performed to an external provider:

Cost of PET scan (2003)= Charges made by company to hospital = 450 euros

ESTIMATED COST OF MEDIASTINOSCOPY (standard patient, EUROS 2003)

| 1.- Materials | units consumed | unit cost | total cost |
|------------------------------|----------------------------------|--------------------------|-------------------|
| 1.1.- Anesthesia | | | |
| syringe (20 ml) | 4 | 0.06 | 0.24 |
| syringe (5 ml) | 4 | 0.02 | 0.09 |
| face mask | 1 | 0.06 | 0.06 |
| manual ventilation circuit | 1 | 8.56 | 8.56 |
| anesthetic filter + tube | 1 | 2.37 | 2.37 |
| tracheal tube | 1 | 78.00 | 78.00 |
| intravenous set | 1 | 0.22 | 0.22 |
| 3-way "tap" | 1 | 0.22 | 0.22 |
| Intravenous catheter | 1 | 0.29 | 0.29 |
| Perfusion pump | 1 | 3.97 | 3.97 |
| aspiration sonda | 1 | 0.11 | 0.11 |
| ECG electrode | 6 | 0.06 | 0.35 |
| ventimask | 1 | 0.93 | 0.93 |
| bandages (pack) | 1 | 1.48 | 1.48 |
| 1.2.- Surgery | | | |
| Surgical cloth | 1 | 7.21 | 7.21 |
| bandages (pack) | 1 | 1.48 | 1.48 |
| skin stapler | 1 | 6.43 | 6.43 |
| TOTAL MATERIAL | | | 105.58 |
| 2.- Medication | units consumed | unit cost | total cost |
| 2.1.- Anesthesia | | | |
| Atropine 1 mg | 2 | 0.10 | 0.19 |
| Dormicum 5 ml | 1 | 0.47 | 0.47 |
| Fentanest flask | 1 | 0.29 | 0.29 |
| Pentothal 500 mg | 1 | 0.93 | 0.93 |
| Anectine 100 mg | 1 | 0.11 | 0.11 |
| Nimbex 10 mg | 1 | 4.01 | 4.01 |
| Prostigmine 1 ml | 4 | 1.02 | 4.08 |
| Propofol 50 ml perfusion | 1 | 4.23 | 4.23 |
| Renifentanile perfusion (1%) | 1 | 27.90 | 27.90 |
| Nimbex 125 ml perfusion | 1 | 10.05 | 10.05 |
| 2.1.- Surgery | | | |
| Nolotil flask | 1 | 0.20 | 0.20 |
| TOTAL MEDICATION | | | 52.46 |
| 3.- Personnel time | hours | salary per hour | total cost |
| 3.1.- Anesthesia | | | |
| Senior anaesthetist | 0,75 hrs | 16.76 | 12.57 |
| Resident anaesthetist | 0,75 hrs | 6.94 | 5.21 |
| 3.2.- Surgery | | | |
| Senior surgeon | 0,75 hrs | 16.76 | 12.57 |
| Resident surgeon | 0,75 hrs | 6.94 | 5.21 |
| Nurses (3) | 2,25 hrs | 9.69 | 21.79 |
| TOTAL PERSONNEL TIME | | | 57.35 |
| 4.- Hospital stay | mean stay per patient | mean cost per day | total cost |
| | 1 day (24 hrs) | 376.00 | 376.00 |
| TOTAL HOSPITAL STAY | | | 376.00 |
| 5.- Overhead costs | hospital days per patient | cost per day | total cost |
| | 1.00 | 34.27 | 34.27 |
| TOTAL OVERHEAD | | | 34.27 |
| TOTAL MEDIASTINOSCOPY | | | 625.66 |

ESTIMATED COST OF THORACHOTOMY (standard patient, EUROS 2003)

| 1.- Materials | units consumed | unit cost | total cost |
|---|----------------------------------|--------------------------|-------------------|
| 1.1.- Anesthesia and reanimation | | | |
| syringe (20 ml) | 5 | 0.06 | 0.30 |
| syringe (5 ml) | 7 | 0.02 | 0.16 |
| face mask | 1 | 0.06 | 0.06 |
| manual ventilation circuit | 1 | 8.56 | 8.56 |
| anesthetic filter + tube | 1 | 2.37 | 2.37 |
| tracheal tube | 1 | 78.00 | 78.00 |
| intravenous set | 1 | 0.22 | 0.22 |
| 3-way "tap" | 1 | 0.22 | 0.22 |
| Intravenous catheter | 2 | 0.29 | 0.58 |
| Artery catheter | 1 | 4.30 | 4.30 |
| Central venous catheter | 1 | 10.22 | 10.22 |
| epidural catheter (set) | 1 | 15.97 | 15.97 |
| Vesical sonda | 1 | 0.48 | 0.48 |
| Nasogastric sonda | 1 | 0.41 | 0.41 |
| Fluid heater | 1 | 32.15 | 32.15 |
| Air convection blanket | 1 | 11.72 | 11.72 |
| Blood pressure system | 1 | 13.22 | 13.22 |
| Perfusion pump | 3 | 3.97 | 11.91 |
| aspiration sonda | 2 | 0.11 | 0.23 |
| ECG electrode | 6 | 0.06 | 0.35 |
| ventimask | 1 | 0.93 | 0.93 |
| bandages (pack) | 5 | 1.48 | 7.38 |
| 1.2.- Surgery | | | |
| Vesical sonda | 1 | 0.48 | 0.48 |
| aspiration terminal | 2 | 0.37 | 0.74 |
| thoracic drain | 2 | 2.10 | 4.21 |
| pleurevac | 1 | 28.00 | 28.00 |
| vascular stapler | 1 | 114.47 | 114.47 |
| bronchus stapler | 1 | 108.04 | 108.04 |
| skin stapler | 1 | 6.43 | 6.43 |
| Surgical cloth | 1 | 7.21 | 7.21 |
| bandages (pack) | 1 | 1.48 | 1.48 |
| suture string (pack) | 3 | 81.14 | 243.41 |
| skin stapler | 1 | 6.43 | 6.43 |
| TOTAL MATERIAL | | | 720.63 |
| 2.- Medication | units consumed | unit cost | total cost |
| 2.1.- Anesthesia and reanimation | | | |
| Atropine 1 mg | 2 | 0.10 | 0.19 |
| Dormicum 5 ml | 1 | 0.47 | 0.47 |
| Fentanest flask | 8 | 0.29 | 2.28 |
| Pentothal 500 mg | 1 | 0.93 | 0.93 |
| Anectine 100 mg | 1 | 0.11 | 0.11 |
| Nimbex 10 mg | 1 | 4.01 | 4.01 |
| Prostigmine 1 ml | 4 | 1.02 | 4.08 |
| Naropin 1% perfusion | 4 | 3.88 | 15.52 |
| Propofol 50 ml perfusion | 1 | 4.23 | 4.23 |
| Renifentanil perfusion (1%) | 1 | 27.90 | 27.90 |
| Volurent 500 ml | 4 | 9.01 | 36.04 |
| Nimbex 125 ml perfusion | 1 | 10.05 | 10.05 |
| Dopamine flask | 1 | 0.45 | 0.45 |
| Lidocaine 1% flask | 1 | 0.54 | 0.54 |
| Toradol 30 mg | 1 | 0.74 | 0.74 |
| 2.1.- Surgery | | | |
| Tisucol flask (1 in 10 times) | 1 | 294.42 | 294.44 |
| TOTAL MEDICATION | | | 136.98 |
| 3.- Personnel time | hours | salary per hour | total cost |
| 3.1.- Anesthesia | | | |
| Senior anaesthesist | 2.5 hrs | 16.76 | 41.91 |
| Resident anesthesist | 2.5 hrs | 6.94 | 17.36 |
| 3.2.- Surgery | | | |
| Senior surgeon | 2.5 hrs | 16.76 | 41.91 |
| Resident surgeon | 5 hrs | 6.94 | 34.71 |
| Nurses (3) | 7.5 hrs | 9.69 | 72.65 |
| TOTAL PERSONNEL TIME | | | 208.54 |
| 4.- Hospital stay | mean stay per patient | mean cost per day | total cost |
| | 7 | 376.00 | 2632.00 |
| TOTAL HOSPITAL STAY | | | 2632.00 |
| 5.- Overhead costs | hospital days per patient | cost per day | total cost |
| | 7 | 34.27 | 239.88 |
| TOTAL OVERHEAD | | | 239.88 |
| TOTAL THORACHOTOMY | | | 3938.03 |

ESTIMATED COST OF CHEMOTHERAPY (standard patient, euros 2003)

| 1.- Materials | units consumed | unit cost | total cost |
|---|------------------------------|--------------------------|-------------------|
| intravenous set | 4 | 0.22 | 0.88 |
| TOTAL MATERIALS | | | 0.88 |
| 2.- Medication | units consumed | unit cost | total cost |
| Cisplatinum 80 mg/m ² | 4 | 43.20 | 172.80 |
| Gemcitadine 1.2 g/m ² | 4 | 134.05 | 536.21 |
| Dexametasone 32 mg | 4 | 1.86 | 7.42 |
| Gramisetron flask | 4 | 26.16 | 104.64 |
| Eprex 10,000 units (1/3 patients) | 4 | 79.12 | 316.48 |
| TOTAL MEDICATION | | | 1139.30 |
| 3.- Tests | number of tests | unit cost | total cost |
| Hemogram | 15 | 4.81 | 72.12 |
| Biochemical analysis | 6 | 1.26 | 7.57 |
| Thorax X-ray | 4 | 99.13 | 396.53 |
| CT | 5 | 581.40 | 2907.00 |
| TOTAL TESTS | | | 3383.22 |
| 4.- Personnel time | hours | salary per hour | total cost |
| Senior oncologist | 3 hrs | 16.76 | 50.29 |
| TOTAL PERSONNEL TIME | | | 50.29 |
| 5.- Hospital stay | mean stay per patient | mean cost per day | total cost |
| 5.1.- Stay for treatment complications | 2 days | 376.00 | 752.00 |
| 5.2.- Stay for terminal care | 1 day | 376.00 | 376.00 |
| TOTAL HOSPITAL STAY | | | 1128.00 |
| 6.- Overhead costs | patient | cost per patient | total cost |
| | 1 | 681.12 | 681.12 |
| TOTAL OVERHEAD | | | 681.12 |
| TOTAL CHEMOTHERAPY | | | 6382.82 |

ESTIMATED COST OF RADIOTHERAPY (standard patient, EUROS 2003)

| | | | |
|----------------------------------|------------------------------|---|-------------------|
| 1.- Materials | units consumed | unit cost | total cost |
| Moulds | 1 | 27.05 | 27.05 |
| TOTAL MATERIALS | | | 27.05 |
| 2.- Medication | units consumed | unit cost | total cost |
| Epex 10,000 units (1/4 patients) | 5 | 79.12 | 395.60 |
| TOTAL MEDICATION | | | 395.60 |
| 3.- Tests | units consumed | unit cost | total cost |
| Hemogram | 30 | 4.81 | 144.24 |
| Thorax X-ray | 15 | 99.13 | 1486.98 |
| CT | 2 | 581.40 | 1162.80 |
| TOTAL TESTS | | | 2794.03 |
| 4.- Simulation | simulations | unit cost | total cost |
| | 1 | 149.64 | 149.64 |
| TOTAL SIMULATION | | | 149.64 |
| 5.- Personnel time | hours | salary per hour | total cost |
| Senior radiotherapist | 56,25 hrs | 16.76 | 942.94 |
| Nurse | 113 hrs | 6.94 | 784.55 |
| Oncologist | 1,5 hrs | 16.76 | 25.15 |
| TOTAL PERSONNEL TIME | | | 1752.63 |
| 4.- Hospital stay | mean stay per patient | mean cost per day | total cost |
| Stay for treatment complications | 0,2 days | 376.00 | 75.20 |
| TOTAL HOSPITAL STAY | | | 75.20 |
| 5.- Capital costs | treated patients | depreciation per treated patient | total cost |
| | 1 | 165.44 | 165.44 |
| TOTAL CAPITAL COSTS | | | 165.44 |
| 6.- Overhead costs | patient | cost per patient | total cost |
| | 1 | 476.41 | 476.41 |
| TOTAL OVERHEAD COSTS | | | 476.41 |
| TOTAL RADIOTHERAPY | | | 5835.99 |