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Poster Papers

Oaks from acorns: the growth of a clinical research culture in a provincial cancer centre

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The Calman report requires cancer centres to be actively involved in clinical research. The practice of evidence-based medicine is an important part of clinical governance. This necessitates the involvement of patients in large clinical trials to produce definitive answers to what is best practice. At present, only a small proportion of oncology patients are entered into clinical trials. This represents a waste of a precious resource and delays the availability of improved treatments for cancer patients.

This presentation looks at the development and working practices of a dedicated team of clinicians and health professionals involved in every aspect of the care of patients eligible to enter a clinical study. It demonstrates how this philosophy has led to a rapid rise in both the number of trials available to patients and the recruitment rates into these trials.

This multidisciplinary collaboration ensures that eligible patients are identified, that information giving is tailored to the individual's needs and that patients are supported throughout the process.

The outcomes of this approach are:

1. Well informed patients.
2. High levels of patient recruitment.
3. Good quality data collection.
4. Additionally, the knowledge base of all staff within the cancer centre has increased with the dissemination of information regarding past, present and future trials. This involvement at all levels promotes an environment in which the results of research are easily incorporated into current practice.

Monitoring cancer services — a cancer registry's input

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1. Objectives

To identity opportunities for a cancer registry to assist in monitoring standards of cancer service provision.

2. Method

Using the results of surveys of data collection mechanisms throughout Trent, multidisciplinary project boards (whose membership included specialist clinicians from the four cancer networks) developed site-specific core datasets.

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These comprised subsets of indicators from the Calman–Hine and the Clinical Outcomes Groups recommendations (for breast, colorectal and lung cancers). Comparative analyses/standard reports were designed and specific policies developed for issues of confidentiality and data access/release of information.

3. Results

Site-specific datasets are now available for breast, colorectal and lung cancers; these would provide sufficient data to meet the needs of around 70% of the draft national performance indicators for cancer. A report has been produced on a comparative analysis of nodal status of operable primary breast cancers. A further project is currently being established for gynaecological cancers, to be followed by upper gastro-intestinal and head and neck cancers.

4. Conclusions

Cancer registries are able to contribute towards monitoring standards of cancer service provision across cancer networks. Monitoring is undertaken independently, using data collected routinely by clinicians for their own purposes and validated externally by Registry personnel. Analyses are regular, consistent and comparable, with results being interpreted locally by clinicians and tumour site groups within cancer networks. The experience within Trent is transferable to other areas.

Dose escalations should be custom-designed in phase I trials

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The main goal of a phase I clinical trial is to define an optimal (recommended phase II) dose. The concept depends on the dose–toxicity relationship, where dose-related toxicity is regarded as a surrogate for efficacy. Of major importance to the patients enrolling in a phase I trial is the possible benefit from antitumour activity. Ethical and medical concerns should prevent the possibility of treating excessive number of patients at sub-therapeutic doses and treating patients above the maximal tolerated dose (MTD), subjecting them to unnecessary toxicities. While newer statistical- and pharmacological-based methods of escalations have been suggested, about 70% of trials incorporating new drugs use the modified Fibonacci scheme because of its easy applicability. A critical review of the modified Fibonacci scheme and a new custom-designed scheme are suggested. In the initial phases of developing the Fibonacci schemes, an estimate of the MTD was deemed essential, yet this variable has been dropped with time. We call this estimate of the MTD dose prime (d′), and make an it equally important to the starting dose that we call (d). Having those two variables will allow a custom-designed method of escalation that would prevent subjecting patients to sub-therapeutic doses or unnecessary toxicities. Suggestions on how to obtain (d′) will be provided.

Capture–recapture method to estimate incidence of non-Hodgkin's lymphomas in the South-west of France

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1. Objective

To perform an incidence survey of non-Hodgkin's lymphoma (NHL) with a capture–recapture (CR) method to assess completeness of registration.

2. Methods

All the patients with NHL (ICD9: 200 and 202) diagnosed between 1995 and 1997 and living in Gironde were registered. Data were obtained by active reporting from pathologists, haematologists, oncologists and internists. All cases were histologically confirmed. CR method was applied on three distinct sources of information: (1) pathology reports (PR), (2) physician's data (PD) and (3) death certificates data (DC) and we used log-linear models to validate the results.

3. Results

During the 3-year period, 666 NHL were diagnosed. The incidence rate of NHL for women and men were respectively 9.0 and 14.4/105/year (standardised on world population). The method with three sources (PR, PD, DC) showed dependency between PR and PD and the results with two main sources shown to be independent (PR + PD versus DC) were 57 (CI 95% 52–64). The same results were observed with log-linear models. False-positive cases in the source DC tended to tin underestimate it. Completeness of registration was higher than 57%. Despite this lack of exhaustivity, we observed greater incidence of NHL in Gironde than in French registries: standardised incidence ratio = 148 (137, 160); $\chi^2 = 104.88$, $P < 0.001$.

4. Conclusion

Applied carefully, the CR method produced a correct estimate of the number of missing cases to explore incidence when there is no registry, although the latter remains the gold standard. A specialised population-based registry on haematological malignancies is currently being developed.

Anaemia is an independent risk factor for survival in cancer patients

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1. Objective

To systematically review, summarise and obtain an overall estimate of the effect of anaemia on survival in cancer patients.

2. Method

Two researchers independently reviewed MEDLINE and reference lists of published studies. The search was carried back 30 years without language limitations. Two hundred papers were identified, with the majority published in English. Of these, only 60 papers that reported the cancer diagnosis and survival data stratified by haemoglobin levels or anaemia were selected. All abstracts and papers not reporting total numbers of patients or proportions of patients

with anaemia were excluded. Cumulative survival over a given period was transformed to average hazard rates and a hazard rate ratio was calculated for each study.

3. Results

Hazard rate ratios, adjusted for other factors, showed anaemia increased mortality in lung cancer by 19% (95% CI 10–29%), in head and neck cancer by 75% (95% CI 37–123%), in prostate cancer by 47% (95% CI 21–78%) and in lymphoma by 67% (95% CI 30–113%). The overall estimate increase in risk was 65% (95% CI 54–77%).

4. Conclusions

Anaemia is associated with shorter survival for patients with lung cancer, cervicouterine cancer, head and neck cancer, prostate cancer, lymphoma and multiple myeloma. More studies are required to establish the impact of treating anaemia on survival and whether using blood transfusions or erythropoietin is better.

The role of local superficial skin radiation in the treatment stage IA mycosis fungoiudes

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1. Objective

To evaluate the patients with early stage (stage IA) mycosis fungoiudes (MF) (cutaneous T-cell lymphoma (CTCL) treated by local superficial radiotherapy with respect to disease-free survival (DFS), local control, overall survival (OAS), salvage of the recurrence and toxicity.

2. Method and materials

Between 1970 and 1999, a total of 26 patients with stage IA mycosis fungoiudes with local superficial radiotherapy at the Roswell Park Cancer Institute, with or without prior treatment and who had pathological documentation for the diagnosis and the recurrence, were reviewed retrospectively. The radiation treatment was given by using 4–9 MeV, 100 and 280 KVP. The median age of the cohort was 62 years and the median follow-up time of 159 months (range 30–278 months).

3. Results

The average age was 62 years and the male to female ratio was 1.9:1. All patients were Caucasian and the rest were African-American. All the patients were stage IA with negative lymph node and without metastases. A total of 13 patients presented with only one lesion while another 13 patients had few lesions (2–3 lesions) The total dose delivered for the patients for one field ranged from 2000 to 5400 cGy in fractionation ranged from 10–27 fractions. The complete remission had achieved in 81% of the patients within 2 months (range 23–59 months) after completion of radiation treatment. The overall disease-free survival at 5 and 10 years was 59 and 49%, respectively. The overall disease-free survival was 96% for all patients and only 2 patients died with the disease progression. The local recur-

rence was reported in 12 patients. All the recurrence outside the treatment fields, which were good salvaged by different treatment modalities.

4. Conclusion

Local skin radiation plays an important role in the treatment of patients with limited and superficial forms of cutaneous T-cell lymphoma with curative intent. The dose in the range of 30 Gy appears to be sufficient for local control and possible cure. The local recurrence can be treated successfully by other treatment modalities. The role of local skin radiation to induce second malignancy could not be excluded.

Primary non-Hodgkin's lymphoma of bone: treatment and outcome

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1. Objective

This study was performed to assess the characteristics, management and outcome of patients with primary non-Hodgkin's lymphoma of the bone that were diagnosed and treated at Roswell Park Cancer Institute.

2. Materials and methods:

18 patients were presented with the criteria for diagnosis with histophathological, and immunohistochemical confirmation of non-Hodgkin's lymphoma with adequate bone biopsy between 1970 and 1996. 12 patients received combined treatment with anthracycline-based chemotherapy and localised radiation, 5 received localised radiation alone and 1 had chemotherapy alone.

3. Results

There were 15 patients with stage LEA and 3 patients were stage IVEA. The histopathological examination revealed 13 patients with intermediate-grade diffuse, large cell, 2 patients had intermediate-grade diffuse mixed small and large cells, 2 patients were intermediate-grade diffuse small cleaved cell type, and 1 patient had an anaplastic large cell type. 5 patients treated with combined treatment and 1 patient treated with localised radiation alone are without evidence of the disease at a median follow-up of 13 years. 6 patients who had combined treatment with radiation and chemotherapy and 3 patients who had radiation alone died from progression of their disease. 2 died from other causes, 1 with combined treatment with radiation and chemotherapy and the other with radiation alone. One patient with combined treatment was disease free at 1 year but was lost to follow-up.

4. Conclusions

This study suggests that patients presenting with early-stage primary non-Hodgkin's lymphoma of bone can be treated with curative intent with the combination treatment of localised radiation and systemic chemotherapy. However, confirmation needs to be verified in larger and prospective studies.

Quality of life and treatment intervention in a mixed group of cancer patients

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1. Objectives

a. To examine quality of life (QoL) by investigating the relationship between a nomothetic measure (SF-36) and an idiographic measure (SEIQoL-DW) in a mixed cancer population.
b. Using multivariate analyses to identify the key SF-36 sub-scales which best predict SEIQoL.
c. The effect of treatment type on QoL.

2. Method

A sample of 33 cancer patients were randomly allocated to one of two groups. Group 1 received cognitive behaviour psychotherapy ($n = 12$), and the other, complementary therapy, notably reflexology and/or aromatherapy. Both groups completed SEIQoL and SF-36 pre- and posttreatment. Anxiety and depression were also assessed using the HADS.

3. Results

There were moderate order correlations between the SEIQoL measure and a number of SF-36 sub-scales. The 'role physical' sub-scale on SF-36 was most closely related to SEIQoL. There was no significant difference in change measures for both QoL scales between the complementary therapy and the cognitive behavioural groups.

4. Conclusion

Checklist measures of QoL like SF-36 are measuring something different from a goal standard individualised subjective nomothetic measure such as SEIQoL. It is important to take this into account when selecting the measure of QoL to assess treatment effects. On both QoL scales, as well as a psychological morbidity measure there was no significant difference between the complementary therapy and cognitive behaviour therapy groups of cancer patients.

The sentinel node in breast cancer

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1. Objective

Evaluation of the Sentinel Node Biopsy (SNB) technique in early breast carcinoma dissection while learning the SNB technique.

2. Method

We studied this technique prospectively in two phases. Before 1999, localisation of SN was achieved exclusively with a radiocolloid, and all patients underwent a complete lymphadenectomy (65 pts). Since 1999, patient blue and radiocolloid mapping has been used to localise SN and only patients with a positive SN have been submitted to lymphadenectomy (79 pts). SN were analysed by routine histology and immunohistochemistry. In the second series, frozen section analysis was performed for macroscopically suspicious SN.

3. Results

In the first series, the detection rate was 66% with a positive SN in 40% of patients. The false-negative rate was 0%. In the second series, the detection rate was 92% with a positive SN in 33% of patients. The SN was the only positive node in 12/24 cases.

4. Conclusion

This study is consistent with other barge published series, and validates SNB as a very effective technique for accurate staging of the axilla. However, adequate multidisciplinary training is necessary to attain a good detection rate and low false-negative rate. These rates can be modified at each methodological step of the multidisciplinary procedure. The number of patients required for this learning curve is not well established (probably between 25 and 50 pts) and methodological standards need to be defined. For the time being, this technique cannot be introduced in routine practice. Surgeons should continue to perform complete axillary dissection while learning the SNB technique.

Prevalence of cured and fatal colon cancer patients

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1. Objective

Cancer prevalence data are necessary for planning the demand for medical care. Prevalence data should include knowledge of how many patients are presently living with recurrences, how many will have them and how many have been cured.

2. Methods

Parametric survival models allow the estimation of a fraction of cured and the mean survival time of fatal cases (patients with increased risk of death compared to the general population).

These parameters are estimated by least square non-linear regression of survival values derived from the EUROCARE project publication for the diagnosis period 1985–1989. Prevalence of patients with recurrences has been inferred from the 'distance' between total survival and disease-free survival. The latter is available from the Lombardy cancer registry.

3. Results

In Europe, the fatal cases ranged between 14 and 9% of the total prevalence. The corresponding proportions of cured patients varied between 86 and 91%. The prevalence of cured cases is a major indicator for the requirement for clinical surveillance. Cured patients have to be followed because one cannot know whether a patient is definitely cured

or not. For colon cancer, most recurrences occur within 2 years of surgery and almost all occur within 5 years. This is why colon surveillance programmes generally last for 5 years after primary curative treatment. The prevalence of cured patients diagnosed in the previous 5 years was a little over 30% of the total prevalence.

3. Conclusions

The prevalence of fatal cases (a major indicator of the demand for therapy for recurrences and palliation) plus the 5-year prevalence of cured cases (a major indicator for the demand for clinical surveillance) define the fraction of the total prevalence that makes demands on health services and is important for planning resource allocation. For colon cancer, this proportion ranged between 47 and 43% across European areas.

Targeted intra-operative radiotherapy: an innovative method of treatment for early breast cancer

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1. Introduction

We believe that conservative treatment of breast cancer may not require radiotherapy that encompasses the whole breast. We present here the clinico-pathological basis for this belief and a novel therapeutic approach that allows intra-operative radiotherapy to be safely and accurately delivered to the target tissues in a standard operating theatre potentially eliminating the usual 6-week course of postoperative radiotherapy.

2. The Rationale

Whole-organ analysis of mastectomy specimens reveals that 80% of occult cancer foci are situated remote from the index quadrant. In contrast, over 90% of local recurrences after breast conservative therapy occur near the original tumour — even when radiotherapy is not given. Therefore, these occult cancer foci may be clinically irrelevant and radiotherapy to the index quadrant alone might be enough.

3. A novel technique

The Photon Radiosurgery System (PRS) is an ingenious portable electron beam-driven device that can typically deliver, intra-operatively, 5– 20 Gy, respectively, to 1 and 0.2 cm from the tumour bed over about 22 min. The pliable breast tissue — the target — wraps around the source providing perfect conformal radiotherapy. Being soft X-rays, the dose attenuates rapidly (a$\sim$1/r3), reducing distant damage.

4. Results

In our pilot study of 25 patients (age 30–80 years, $T = 0.42$–4.0 cm), we replaced the routine postoperative tumour bed boost with targeted intra-operative radiotherapy. There have been no major complications and no patient bias developed local recurrence at the median follow-up of 15 months.

5. Conclusion

It is safe and feasible to deliver targeted intra-operative radiotherapy (Targit) for early breast cancer. We have begun a randomised trial comparing Targit with conventional radiotherapy. If proven equivalent, it could eliminate the need for the usual 6-week course of postoperative radiotherapy.

Prevalance estimates in Europe: the Europreval project

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1. Introduction

Europreval, a Biomed-2 project, is aimed at estimating prevalence of cancer in European countries. Cancer prevalence indicates the proportion of individuals who have had a diagnosis of the disease during their life. These people present greater health needs than the general population.

2. Methods

We estimated prevalence in areas covered by population-based cancer registration. Prevalence is calculated from vital status of all incident cases observed since the establishment of the cancer registries. Correction for incompleteness is made to take into account subjects diagnosed before the start of cancer registration.

3. Results

About two persons in a hundred (1580 per 100 000 among men, and 2500 among women) had had, at the end of 1992, a diagnosis of cancer in the course of their life. Prostate (206), lung (143), and colon (137) are the cancer sites with the highest proportion in men, while breast (855), cervix uteri (263) and colon (164) are the most frequent sites in women. 42% of prevalent cases for all malignancies were diagnosed in the previous 5 years, while 37% were long-term survivors more than 10 years from diagnosis. Geographical variability was high, with a highest/lowest ratio of about 3 for all cancers and more than 10 for prostatic cancer. Sweden presented the highest prevalence for almost all sites, while Eastern European countries had the lowest.

4. Conclusions

Health policies that affect both incidence and survival levels have a major impact on prevalence level. In turn, persons with cancer diagnosis are an important component of the global demand of healthcare. Monitoring prevalence is therefore important for health systems' planning and evaluation.

Comparison of survival between stages IV-A and IV-B of head and neck cancer

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1. Objective

Based on the recent modification of the TNM classification (1997), for stage IV of head and neck cancer (HNC), we analysed and compared the survival data for the subgroups IV-A and IV-B in 179 patients treated in our department with neoadjuvant chemotherapy followed by locoregional treatment.

2. Method

Characteristics of patients: Number of cases 179; median age: 58 years (18–78 years): Stage: IV-A 124, IV-B 55 patients; Primary site: oral cavity 20%, oropharynx 20%, nasopharynx 11%, hypopharynx 17%, larynx 21%, paranasal sinuses 3%, other 8%. Statistical analysis: the analysis of survival of subgroups was done following the method of Kaplan–Meier. The test of Mantel–Cox was used to analyse the possible differences between subgroups.

3. Results

The analysis of survival showed a better 24-month survival for patients in stage IV-A when compared with stage IV-B (65.34% versus 40.47%) (95% CI 7.4–42.3%). Log rank 8.82 ($P = 0.003$). Hazard ratio 1,36.

4. Conclusion

Patients with HNC in stage IV-B have a poorer prognosis that those in stage IV-A. Differences in 24-month overall survival are statistically significant. These results reinforce the recommendations of the last update of TNM classification.

Socioeconomic variations in treatment for colorectal cancer in Merseyside and Cheshire

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1. Objective

To evaluate the socioeconomic variation in the treatment of patients with colorectal cancer in two English counties.

2. Method

Using Merseyside and Cheshire Cancer Registry (MCCR) information on treatment modality and socioeconomic status (SES) for all cases was analysed between 1989 and 1996. SES was measured using five deprivation groups corresponding to Carstairs' index quintiles. Chi-square test for trend was used to assess significance.

3. Results

Surgical treatment was received by 4349 (60%) colon and 2616 (63%) rectal cancer cases. Ranges by deprivation group ranges were 55–65 and 60–66%, respectively. The proportion of patients receiving surgical treatment increased significantly with higher SES ($P = 0.00001$ and $P = 0.0125$ for colon and rectum, respectively).

Chemotherapy was received by 335 (4.6%) colon and 257 (6.2%) rectal cancer cases (deprivation group ranges: 2–7.5 and 5.7–7.1%, respectively). The proportion of cases receiving chemotherapy increased with higher SES, significantly only for colon cases ($P = 0.0001$ colon, $P = 0.198$ rectum).

Radiotherapy was received by 238 (3.3%) colon and 597 (14.4%) rectal cancer cases (deprivation group ranges: 2.6–4 and 12.5–16.7%, respectively). The proportion of cases treated with radiotherapy increased with higher SES, significantly only for rectal cancer ($P = 0.32$, colon, $P = 0.027$, rectum).

4. Conclusions

There are variations in the levels of treatment by social class for the three main treatment modalities, with more affluent colorectal cancer patients more likely to be treated. The precise causes of these variations are less clear and are the subject of further work.

Head and neck cancer registry in Northern France: analysis from 1989 to 1997

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Since l984, a head and neck cancer registry has been recorded in Northern France (4 200 000 inhabitants).

Registrants were all ENT specialists, head and neck surgeons, maxillofacial surgeons and radiation therapists working either in private or in public institutions. Data were collected at Centre Oscar Lambret, checked and included in the central registry. For each new case, we registered the patient's name, date of diagnosis, age, gender, address, primary site and pathological diagnosis.

From l989 to 1997, 16 174 new head and neck malignancies were recorded for 14 828 different patients, 95.5% of them had only one tumour, 4% had two tumours and 0.5% more than two. 92.6% of cases occurred in men. Mean age at diagnosis was 57.1 for males and 60.6 for females. Main sites were oropharynx in 27%, larynx in 20.8%, hypopharynx in 18.6%, oral cavity in 14.7% and tongue in 11.8%. Pathology was known in 99.1% of records and consisted of squamous cell carcinoma in 97.8%.

Head and neck tumours are a major concern in Northern France with a particularly high incidence in males. Data from the Regional Health Observatory show an impressive incidence of tobacco- and alcohol-related deaths. These data justify a comprehensive approach to this major public health problem.

Testing the strength of health-related quality of life data in the cancer clinical trial setting

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1. Objective

To test recently completed health-related quality-of-life (HRQL) study results using state-of-the-art analytic techniques.

2. Method

The SF-36, FACT-An and linear analogue scales were administered to patients receiving epoetin alpha versus placebo in a 28-week, multinational, randomised, double-blind, placebo-controlled trial for treatment of anaemic cancer

patients. HRQL data were analysed using mixed effects (ME) and joint mixed effects and dropout (JME&D) models to account for missing data. Rasch methods were used to assess language variation across countries. Several methods were used to explore the relationship with clinical variables.

3. Results

Changes in transfusions, haemoglobin and HRQL were statistically significant. Use of JME&D showed that missing data appeared not to bias the magnitude of differences in HRQL change scores. Comparison of ME with JME&D resealed that HRQL scores for both epoetin alpha and placebo patients were biased upward under the assumption of data missing at random, indicating lower HRQL for dropouts. Rasch analysis supported pooling of multilingual data: only about 10% of items showed differential item functioning. Tests looking at HRQL versus haemoglobin revealed that between-group HRQL changes exceeded the magnitude of the HROL differences for patients having stable versus improved (by >1 g/dl) haemoglobin. Regression for HRQL increase versus haemoglobin increase showed that HRQL changes in the trial were consistent with the expected effects given the observed changes in haemoglobin.

4. Conclusions

Increasing attention is being paid to missing data, HRQL instrument use and plausible links between QOL and medical outcomes. Analytical techniques such as those used above strengthen conclusions drawn from outcomes trials.

Improving the journey for patients with prostate cancer

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1. Introduction

Through mapping and redesign of the patient's journey, we hope to provide a faster service and ensure adequate patient information, choice in treatment and trial recruitment.

2. Mapping

Delays were identified between referral and diagnosis, waiting for staging investigations and in commencing treatment. For advanced disease, new management protocols were identified. Allowing patients time to consider their options was a significant factor.

3. Process redesign

1. Prebooking of appointments has reduced time to diagnosis to under 14 days.
2. A multidisciplinary uro-oncology meeting was instituted.
3. Patients with localised disease see both surgeon and oncologist.
4. Advanced cases are referred to an oncologist specifically to advise on possible later involvement. Follow-up is shared between disciplines.
5. Conformal radical radiotherapy techniques are used. There is protected clinician time solely for computer planning. Recruitment to the MRC RT01 study has been good.
6. Patients needing palliative radiotherapy are seen directly in the planning clinic, marked up and usually treated the same day when single fraction.
7. Patients with hormone relapsing disease are considered for further hormonal manoeuvres and palliative radiotherapy including strontium as appropriate.

4. Conclusion

An analysis of the current and desired service provision for patients with prostate cancer has led to a significant reduction in journey times, informed treatment choice and a positive approach to the treatment of metastatic disease. It has highlighted the need for appropriately trained non-medical staff. Redesign continues.

2nd Phase of validation of the schedule for the evalutation of individual quality of life (SEIQOL) in advanced cancer

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1. Objective

To answer the question: is the SEIQOL-DW able to detect meaningful changes over time in patients with advanced cancer and thus to facilitate an optimal management of palliative care?

2. Instruments

The SEIQOL-DW [1] is administered by a semi-structured interview where the patient identified five domains central to his or her quality of life (QoL), rates each domain (VAS) and weights their relative importance. A global weighted score (SGS) is obtained (0–100, higher scores meaning better QoL). The first validation study in French demonstrated good results (acceptability and range of measurement).

3. Methods

Inclusion criteria were: advanced cancer, no cognitive disorder, life expectancy exceeding 2 months and oral consent. The SEIQOL was administered twice (2 months interval). In all cases, the patient completed first a Uniscale Global QoL (UGS).

4. Results

79 patients were included by October 2000; 31 could be interviewed twice. The SGS relative variations ranged from −69% to 130%.

5. Discussion

The results will be presented on a larger series of patients and will be compared to the UGS and the WHO performance index. If the responsiveness of the SEIQOL is confirmed over time, a tool will be available that is able to measure the efficacy of palliative care.

Reference

1. Boyle CA. Dublin, 1991.

Haemotoxicity prognosis for primary breast cancer therapy

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1. Objective

Efficiacy of radiation (RT) and chemotherapy (CT) during treatment of breast cancer (BC) is limited by the influence of toxicity. It is often difficult to predict toxicity because of patient variation in drug metabolism, but it is necessary because of the narrow therapeutic window of most chemotherapeutic agents. Besides, haematoxicity prognosis is important for the economics of cancer care since it may allow treatment without any hemostimulator. One of the toxicity criteria of the therapeutic dose is myelosuppression. In the present study, as the toxicity criterion of the administered dose, an alteration of the DNA content in leukocytes after *in vitro* test irradiation was used.

2. Method

33 females within a range of 36–78 years with primary adenocarcinoma of the breast were studied. 17 women received a standard RT course with total dose 50 Gy, 11 women received a CMF course (cyclophosphamide, methotrexate, 5-fluorouracil). Five women received a standard schedule of FAC (5-fluorouracil, doxorubicin, cyclophosphamide). The short-term method of the DNA index (S) determination before treatment has been described previously [1].

3. Results

In the case of RT, a linear negative dependence took place between the S-alterations and a leukocyte nadir (LN) percentage in 6–33 days after irradiation of these patients. The determined S-index reflected a degree of sensitivity to the radiation therapeutic exposure. In the case of CT of BC with CMF, the LN alteration regularities in dependence on the S-value were similar to alterations revealed during RT. Preliminary data showed that in the case of the FAC schedule administration, in contrast to CMF, there was linear positive dependence between the S-value and the LN percentage.

4. Conclusions

The determination of the *in vitro* leucocyte radio-sensitivity before treatment enabled prediction of both the LN during RT and the magnitude of the leucocyte disease during CT. Moreover, determination of the S-value predicted the features of haemotoxic effects for different schedules of chemotherapeutic treatment.

Reference

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Quality of life in breast cancer patients

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1. Objective

To compare quality of life in breast cancer cases and benign breast disease controls.

2. Method

Using the EORTC quality of life questionnaire (QLQ-C30) and its complementary breast cancer instrument (QLQ-BR23), data were collected during 1 complete calendar year with the intention of interviewing all new breast cancer patients attending the breast clinic of a large teaching and medical centre in Tehran, Iran. Any patient with a suspected diagnosis of breast cancer was identified by the specialist consultants and was interviewed before the diagnosis was made. Follow-up assessments were carried out 3 months after completion of the patients' initial treatment. All patients who were diagnosed as having conditions other than breast cancer were treated as controls and included in the analysis. The comparison was made between cases and controls both at prediagnosis and at 3 months follow-up assessments.

3. Results

In total, 316 suspected patients were interviewed. Of these, 168 patients were diagnosed as having breast cancer (cases) and the remaining 148 patients as benign disease (controls). Comparing quality of life in breast cancer cases and benign breast disease controls indicated that, at prediagnosis assessment, there were no significant differences between cases and controls. However, at follow-up assessment, there were significant differences between cases and controls indicating deterioration in quality of life in breast cancer patients, while benign breast disease controls showed improvements.

4. Conclusions

The findings of this study suggest that the issue of deterioration in quality of life in breast cancer patients is not a subjective impression of patients but rather a clinical reality. To improve quality of life in breast cancer patients, underlying factors that contribute substantially to such quality should be recognised and assessed.

Guidelines for the use of colony stimulating factors in patients receiving adjuvant chemotherapy for breast cancer

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Adjuvant chemotherapy (CT) is now standard therapy for most patients with more than early breast cancer (BC). In a retrospective review of 100 consecutive patients with BC, 11 receiving adriamycin/cyclophosphamide (AC) and 64 receiving cyclophosphamide/methotrexate and 5-fluorouracil (CMF), and 25 AC then CMF, dose intensity was reduced in 24, with 16 instances of febrile neutropenia. G-CSF can be used if neutropenia is causing excessive dose reduction or delay and can reduce febrile neutropenic episodes. To evaluate whether guidelines can improve dose intensity and reduce toxicity, G-CSF was given if a nadir ANC 0.3×109L occurred, neutropenic fever or sepsis occurred or a delay was required because of neutropenia. Dose reductions were required if neutropenia was delayed beyond day 21 and for thrombocytopenia and other toxicities. The filgrastim dose was 5 mg/kg/day from day 2 for 5 days or until the ANC was 5×109L.

1. Results

25 patients have been treated with four cycles of AC. There have been no dose reductions required and 84% of patients were treated with no treatment delay. 6 patients were eligible to be given G-CSF, but only 3 received it. There was 70% compliance to weekly FBC and there were no admissions for febrile neutropenia.

2. Conclusions

These guidelines appear to allow the administration of chemotherapy with appropriate dose intensity and reduced hospital admissions and delays. However, compliance to guidelines needs to be improved. Updated results will be presented.

Incidence of CNS metastases in a cohort of patients with colorectal, lung, breast, kidney cancer or skin melanoma

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1. Objective

To study the incidence and factors related to the occurrence of central nervous system metastases in a cohort of patients diagnosed with colorectal, lung, breast, kidney cancer or skin melanoma.

2. Method

Using the population-based Maastricht Cancer Registry (MCR), a cohort was created of patients with colorectal ($n = 720$), lung ($n = 938$), breast ($n = 802$), kidney cancer ($n = 114$) and melanoma of the skin ($n = 150$). The patients had to live in the catchment area of the University Hospital Maastricht (UHM) and had to be diagnosed at the UHM in the period 1986–1995. To detect CNS metastasis, the MCR was linked to the Neuro-oncology Registry (NOR) of the UHM. Radiology files were also checked. Follow-up was completed until 31 December 1998.

3. Results

In 232 patients of the cohort ($n = 2724$), a CNS metastasis was diagnosed (8.5%). 84 CNS metastasis were diagnosed within 1 month of the diagnosis. 82 within 1 year and 66 later than 1 year after diagnosis. After 5 years, cumulative incidence was estimated to be 16.3% in lung cancer, 9.8% in kidney cancer, 7.4% in skin melanoma, 5.0% in breast cancer and 1.2% in colorectal cancer. Multivariate analysis showed in breast and lung cancer that incidence was lower in persons of 70 years and older and higher in patients diagnosed before l99l and in small-cell lung cancer.

4. Conclusions

The frequency of CNS metastases in this cohort was highest in patients with lung cancer, followed by kidney cancer. The cumulative incidence of brain metastasis decreased in the study period in breast and lung cancer.

Ten-year results of breast self-examination: prospective randomised trial (Russia/St Petersburg/WHO)

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Breast self-examination has been advocated for nearly 50 years, but no randomised trial has demonstrated that instruction in breast self-examination (BSE) improves survival from breast cancer. Between 1985 and 1989, 57 712 women (age 40–64 years) in 28 randomly selected polyclinics in St. Petersburg were taught BSE (randomisation by the World Health Organization, Geneva, Switzerland). 64 759 women in other randomly selected polyclinics were controls. Physicians from the Institute provided weekly breast clinics in all 28 polyclinics. Women were able to seek consultation either by self-referral or on the advice of their physician. For both BSE and control groups, all identified abnormalities were biopsied and treated at the Institute. The endpoints were breast cancer incidence and breast cancer-specific mortality. BSE compliance was 76.4% at the end of the eighth year of the study. More women in the BSE group came to the breast clinic for suspected pathology (4340) than in the control group (2438; $P < 0.05$). The BSE group had 493 breast cancers with 157 deaths; the control group had 446 breast cancers with l67 deaths (difference not significant). Kaplan–Meier 10-year survival from the time of diagnosis of breast cancer was 65% for the BSE group and *55%* for controls (log rank 0.774; $P > 0.05$).

Palliative combined treatment of neglected bladder cancer

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1. Purpose

To study the effectiveness of radiotherapy and chemotherapy given to patients with neglected bladder cancer after palliative operation.

2. Methods

211 patients were given different kinds of palliative treatment in the oncology clinic. There were 171 male and 40 female patients. The patients were distributed in accordance with TNM classification: T3N0-xM0-x — 13 patients, T4N0-xM0-x — 40, T3N1-3Mx-1 — 44, T4N1-3Mx-1 — 145 patients. Only 95 patients had a palliative operation. 40 patients underwent radiotherapy after having a palliative operation. 42 patients underwent chemotherapy after having a palliative operation. 34 patients were given chemo- and radiotherapy after a palliative operation. So, chemotherapy was given to 76 patients, and 74 patients underwent radiotherapy. While performing chemotherapy, preference was given to the MVAC scheme and endolymphatic way of injection. Among 76 patients there were 65 who got one course of chemotherapy and 6 patients who got two courses of it. Three or more courses of chemotherapy were given to 5 patients. Among 74 patients who underwent radiotherapy, there were 68 who were given one course and 6 who got two.

3. Results

The chemotherapy used did not cause explicit toxic reactions and was well tolerated by the patients. The post-operative chemotherapy course did not influence the patients time in hospital. Radiation reactions of varying severity occurred in 17 (22.9%) cases, and more often in relation to tumours of the bladder neck. Only 5 patients have severe

forms of radiation cystitis and proctitis which required cessation of radiotherapy and prescription of special therapy. By estimating the longer term results of the treatment using the life-table method, it is established that there were more cases alive at 5 years in the group of patients who got chemo- and radiotreatment after a palliative operation. The percentage of these cases amounts to 64.4±22.36% in comparison with only palliative operation (43.9±12.53%), radiotherapy after palliative operation (47.0±22.06%), and with chemotherapy after palliative operation (41.8±19.26%).

4. Conclusion

Performing additional combined chemo- and radiotherapy after a palliative operation appears to improve prognosis among patients with neglected bladder cancer.

Guidelines for quality standard and models for quality audit for the radiotherapy process

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Quality standards, quality assurance, quality control and quality audit have been strong themes in the practice of radiotherapy from its beginnings. Currently, evidence-based guidelines are being rapidly developed and adopted throughout medicine, including radiotherapy, which has given further impetus to consideration of the basis for quality standards and the applications of quality audit. This is clearly necessary for specific cancer sites to ensure best practice in all institutions and optimum treatment for all patients entering the process with a given type and stage of disease. However, it is also critical in the underlying provision of radiotherapy infrastructure and in the baseline performance of those aspects that are common to all treatments for each centre. Indeed, without these basic standards in place, assured and verified, it is impossible to ensure that other clinical standards can be met. Thus, sustainable guidelines, on radiotherapy resources, equipment and staffing are vital, as are comprehensive consistent recommendations on procedures, quality assurance programmes, quality systems and audit for the general radiotherapy process. There are many sets of national and international standards in various areas of the speciality, often concentrating on those aspects which can be readily measured. For example, in the UK there have been a range of publications from RCR, IPEM, DoH (e.g. QART), COIN, etc. At a European level, ESTRO has published specific recommendations on quality standards and quality systems for radiotherapy, as well as participating in wider multi-speciality quality assurance guidelines for cancer treatment. Quality audit of the operation of a quality system is an intrinsic requirement of the implementation and verification of such a system, but requires defined quality standards against which to audit. Other types of audit are well established, but typically only in limited areas. For example, there are a number of quality audits of dosimetry and patient data entry for patients into clinical trials (e.g. EORTC and MRC). There are national (e.g. IPEM/UK) and international (e.g. ESTRO-EQUAL) quality audits aimed at regular involvement of essentially all centres in external radiotherapy dosimetry audit. The role and development of such initiatives gives a possible model for similar co-operative approaches to widen their scope and hence their impact in radiotherapy.

Male breast cancer: awareness, management and outcome — experience of two district general hospitals

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1. Objective

This study surveys the management and outcome of male patients with breast cancer.

2. Method

Retrospective analysis of male breast cancer patients at two district general hospitals was carried out. Data on 15 patients between January 1982 and July 2000 were analysed.

3. Results

The age at presentation ranged between 43 and 90 years. The main symptoms were breast lump in 13 patients and 2 patients presented with nipple symptoms. 7 patients were seen in a breast clinic and 8 patients in general surgical clinics. 13 patients underwent mastectomy and nine patients underwent axillary dissection. The pathology was invasive ductal carcinoma in 12 patients, *in situ* carcinoma in 2 patients and Paget's disease in 1 patient.

9 patients received adjuvant treatment in the form of radiotherapy, tamoxifen or both. Follow-up period was from 3 months to 10 years. 2 patients, presented with local recurrence 4 and 5 years after treatment and 1 patient presented with bony and pulmonary metastases 16 years after mastectomy.

4. Summary and key points

- General practitioners need to be more aware of the possibility of breast cancer in men presenting with breast symptoms.
- Patients with suspected breast cancer should have rapid access to specialist breast clinics with multidisciplinary team facility.
- Men with breast cancer do not appear to have as bad a prognosis as it is assumed.

Radiotherapy after R1 resection for gastric cancer — analysis of survival

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1. Objective

Surgery is the treatment of choice for gastric cancer. The presence of resection-line involvement (R1 gastric resection) renders the operation palliative in nature. The probability of survival after R1 resection is similar to that for patients with macroscopic residual disease (R2 resection). The purpose of this study is to analyse survival of patients treated with non-optimal surgery and postoperative irradiation for gastric cancer.

2. Method

From 1986 to 1995 in the Cancer Centre of Warsaw, consecutive patients were irradiated after subtotal/total resection for gastric adenocarcinoma. Among them, 24 patients were treated after R1 resection. In 20 of them, 1 and, in 4, both, resection lines were microscopically involved with cancer. Men: 18, women: 6: age: range 33–77 years, mean 56 years. Performance status: WHO: 0–1. Performed lymphadenectomy according to D classification: D2 — 3, D1 — 16, D0 — 5. Mean lymph node retrieval: 2. TNM status: T1 — 1, T2 — 4, T3 — 17, T4 — 2.

Irradiation total dose of 43.2–54 Gy (mean: 48.2 Gy) in 1.8–2.0 Gy per fraction was delivered to the gastric bed and regional lymphatics. No chemotherapy was given.

3. Results

Mean follow-up time was 38.5 months. Treatment failures were noted in 13/24 (54%) cases: of them: 8/24 were local, 3/24 distant, 2/24 both. During follow-up, 13 deaths occurred. The overall survival rate was calculated by the Kaplan–Meier method. Median survival of 16 months after radiotherapy was achieved.

4. Conclusions

Postoperative radiotherapy for gastric cancer in patients after RI resection may provide some degree of local control and survival benefit. It seems worth further investigation.

The economic burden of oral cancer in Greece

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Oral cancer (OC) has been recognised as a significant health hazard with substantial clinical management difficulties. In Greece, the estimated annual incidence of OC is 600–650 new cases. The present study has two aims: first, it attempts to quantify the direct costs to the healthcare system of Greece and to identify potential cost-reduction items. Second, it examines the relationship between stage of disease, modality of treatment and cost.

1. Materials and methods

The present analysis is based on a hospital record review of 95 oral squamous cell carcinoma patients of the Athens General Hospital "G. Gennimatas". The clinical data was used as the template to recalculate actual direct costs with current market values.

2. Results

The total direct costs for treating this group of patients in year 2000 would be approximately 273 384 000 DRH (~US$770 100). Thus, the mean cost per patient would reach 2 877 726 DRH (~US$8106). It was observed that costs depended on the stage of the disease, with significant increases in stages III and IV, as compared with stages I and II ($P < 0.05$). 90% of patients with stage I OC were treated by surgery, whereas more than 90% of the patients in stages III and IV were treated with multimodality treatments. The disease stage was also associated with the total duration of hospitalisation ($P < 0.05$).

3. Conclusion

As expected, the clinical management of advanced oral cancer is strongly associated with higher costs. Although the ideal would be to prevent cancer, the combination of screening, early diagnosis and early treatment seems the most efficient way to reduce costs and, most importantly, prolong life.

Non-surgical oncology management of ovarian cancer in South-west England 1997

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S&W Regional Cancer Organisation (RCO), Bristol, UK

1. Objectives

- To validate the accuracy and completeness of the non-surgical oncology information on patients with ovarian cancer collected in SW Region, UK.
- To analyse the non-surgical oncology management.

2. Method

Information was submitted by oncologists from 20 hospitals in the region using minimum dataset forms developed by the GTP. The data were entered and analysed at the RCO.

3. Results

Oncology returns were obtained for 188 patients — 58% of all registered with ovarian cancer in 1997.

- 69% patients received chemotherapy, usually after debulking surgery.
- Chemotherapy by stage is 29% stage I, 74% stage II, 90% stage III and 59% stage IV.
- For stage I good-risk tumours, 12% had chemotherapy after surgery.
- For stage I poor-risk tumours, two-thirds had chemotherapy after surgery.
- The most common chemotherapy used was single agent carboplatin.
- Radiotherapy was given for 8 patients, usually as palliation after surgery and chemotherapy.

4. Conclusions

This provides a baseline view of oncology practice in the South West region in 1997. The GTP agreed guidelines for clinical management in 1998 and revised them in 1999. It is anticipated that the formation of multidisciplinary teams working along COG guidelines will result in improvement in planning and delivering high quality treatment for gynaecological cancer according to the RCO guidelines.

Auditing histopathology reporting of malignant melanoma

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1. Objectives

To assess whether histopathology reports are providing clinicians with the information necessary to manage patients in a satisfactory manner; to establish guidelines on the minimum data required.

2. Method

The histopathology departments of 14 acute hospitals in the region were requested to provide copy of the histopathology reports of the first 10 primary invasive cutaneous melanomas that presented in 1995.

An optimal dataset of histological information was determined that contained 35 items. Of these, 15 were deemed to be the minimum that a clinician would require to appropriately manage the patient if the patient were referred to him/her after excision biopsy. The reports were anonymised and assessed. Data were disseminated regionwide.

3. Results

The first audit revealed that none of the 14 hospitals reported on 100% of the items identified as the minimum dataset. 99.2% of the reports included a clear diagnosis of malignant melanoma, while only 56.5% of the reports included a degree of invasion of the tumour.

4. Conclusion

In the light of results obtained in the initial audit, the Tumour Panel members recommended that a re-audit took place. The process is now underway and final data will be presented at the meeting.

Analysis of 25-OHvitamin D_3-1α-hydroxylase in breast tissue

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1. Objective

The aim of this study was to analyse the expression of 1α-hydroxylase for 25-hydroxyvitamin D3 in normal breast samples and in breast cancer to evaluate whether breast tissue possesses the capacity to produce $1,25(OH)_2D_3$ from $25(OH)D_3$, indicating that $1,25(OH)_2D_3$ may be a locally produced hormone that controls proliferation in breast tissue and that alterations in the local production of $1,25(OH)_2D_3$ may be involved in the tumorigenesis of breast cancer.

2. Method

RNA was extracted from normal breast tissue ($n = 7$), breast carcinomas ($n = 14$) and cultured MCF-7 breast cancer cells. R.NA was reverse-transcribed and cDNA-levels were semiquantitatively analysed using PCR. For proliferation analysis, preconfluent MCF-7 cells were treated with or without 10^{-7}–10^{-9} M 25(OH)D3 or l,25(OH)2D3. Proliferation was estimated by [^{3}H]-thymidine incorporation and measured by beta particle emission with a scintillation counter. 1α-hydroxylase-activity was measured in MCF-7 cells incubated with [^{3}H]-25(OH)D3 and treated with or without clotrimazole. Total cell extracts were subjected to HPLC; fractions were counted in a scintillation counter.

3. Results

mRNA of 1α-hydroxylase for 25-hydroxyvitamin D_3 was detected in more than 50% of samples analysed in normal breast tissue and in breast cancer with no visible differences between both groups. mRNA of 1α-hydroxylase for 25-hydroxyvitamin D_3 was detected in MCF-7 cells as well. When MCF-7 cells were treated with 1,25-dihydroxyvitamin

D_3, cell proliferation was inhibited. 1α-hydroxylase-activity that could be blocked with clotrimazole was detected in MCF-7 cells.

4. Conclusions

Thus, normal breast and breast cancer cells synthesise 1α,25(OH)2D3 that may be of high importance for the growth control in normal and malignant breast tissue. Normal breast tissue and breast cancer may be targets for cancer prevention or cancer treatment with precursors of biologically active vitamin D analogues.

Expression of VDR and prognosis of breast cancer

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1. Objective

Steroid hormone receptors such as oestrogen and progesterone receptors have been shown to be prognostic factors in breast cancer. So far, new prognostic or predictive factors are missing for risk stratification and thus for risk-adapted therapy, especially in lymph node-negative breast cancer patients.

2. Methods

We have analysed vitamin D-receptor (VDR) expression in breast cancer ($n = 228$) immunohistochemically using mAb 9A7γ and a recently employed immunoreactive score (IRS). The presence of VDR was compared with three well established prognostic factors for breast cancer: staging and grading according to TNM classification, presence of ER or PR, respectively. Additionally, VDR expression was compared with the expression of the tumour suppressorgene p53, the proliferation antigene Ki-67 and S-phase fraction.

3. Results

When VDR expression was compared with the expression of the proliferation antigene Ki-67 ($P = 0.47$ Mann–Whitney U-test), DNA-cytometry with S-phase index ($P = $ O.59 Kruskal–Wallis test), the expression of estrogen (P0.69 Kruskal–Wallis test) and progesterone receptors (P = 0.96 Kruskal–Wallis test) and the expression of the tumour suppressor gene TP53 ($P = 0.18$ Mann–Whitney U-test), no statistically significant correlations were found. Comparing VDR-IRS with histopathological datas (tumour stage: $P = 0.15$ Kruskal–Wallis test; lymph node status: $P = 0.95$ Kruskal–Wallis test; grading: $P = 0.95$ Kruskal–Wallis test, histological tumor type: P = 0.98 Kruskal–Wallis test) no significant correlations were noted.

4. Conclusion

Our findings indicate that VDR expression is not a prognostic factor in breast cancer, but that breast cancer may be a target for therapeutically applied vitamin D analogues. New vitamin D analogues exerting less calcemic side-effects may be promising new drugs for the treatment or chemoprevention of breast cancer as well as of precancerous breast lesions.

Pamidronate decreases pain, skeletal events and disease activity in multiple myeloma

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Pamidronate is a potent inhibitor of osteoclast activity and is used in the treatment of multiple myeloma (MM) as it has been proven that it also induces apoptosis on human MM cells, decreases interleukin-6 (IL-6) secretion by stromal cells and induces expansion of γδT cells with anti-MM activity *in vitro*. We studied the effect of pamidronate treatment on pain, skeletal events, biochemical markers of disease activity (paraprotein, CRP and β_2-microglobulin), bone resorption (NTx) and IL-6 in 62 newly diagnosed patients with MM.

Patients were randomly separated in two groups. Group I included 32 patients treated with chemotherapy and pamidronate, while group II included 30 patients under chemotherapy only. Pamidronate was administered at a monthly dose of 90 mg i.v. and the above parameters were evaluated 24 h before, and every month for 14 months after the initiation of therapy. The evaluation of pain was scored according to a monthly questionnaire which included modification of dosage and duration of analgesic treatment, the days off work and the hospitalisation days because of pain. Finally, radiographic evaluation of the skeleton was made before and 6, 9 and 12 months after the initiation of treatment and whenever it was necessary due to clinical problems.

In patients of group I, the combination of chemotherapy with pamidronate produced a significant reduction of paraprotein, NTx and IL-6 from the third month of treatment and of pain, skeletal events, CRP and β_2-microglobulin from the sixth month. Patients of group II showed no significant changes on pain, NTx and IL-6 white paraprotein and CRP decreased significantly after 6 months of treatment. There was a significantly stronger reduction of pain and NTx in patients of group I than of group II at 3 months. Significantly lower levels of IL-6 and paraprotein and a reduction of skeletal events were found at 6 months in patients of group I than in group II and of β_2-microglobulin and CRP at 9 months of treatment. These differences persisted up to the last observation. Multivariate analysis showed a significant correlation between changes of NTx, IL-6 and score of pain.

This impressive reduction of markers of myeloma activity in addition to the strong bone resorption inhibiting effect of the combination of chemotherapy with pamidronate suggests that pamidronate can improve the quality of life in MM patients, reducing pain and skeletal events, and may have an antitumour effect *in vivo* as it has been demonstrated *in vitro*.

Neoadjuvant chemotherapy plus TURB as an organ preserving treatment for invasive bladder cancer

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1. Methods

A total of 56 patients received four cycles of neoadjuvant MVAC chemotherapy followed by TURB.

2. Results

Complete response after four cycles of MVAC was achieved in 7 (13%) patients, partial in 4l (73%) and no response in 8 (14%). All the patients underwent TURB within 30 to 45 days after the last course of chemotherapy. The mean follow-up was ? months. 29 patients developed a local recurrence. In 15 cases, the recurrent tumour was superficial and invasive in 14. The majority (88%) of invasive recurenses were at the site of the primary tumours. Among 7 patients in whom a complete response was achieved following chemotherapy, only 1 developed a local recurrence. The

other 6 are alive without evidence of the disease with a mean follow up of 15–50 months. In 41 patients who had a partial response to chemotherapy, a local recurrence occurred in 25 (61%). 26 patients are alive with the preserved bladder with a mean follow-up of 28 months with no evidence of disease.

3. Conclusuion

High rates of invasive local recurrences in patients with partial response to chemotherapy show that a conservative approach is not applicable in this group of patients.

Patient selection criteria for the radiosurgical treatment of brain metastases

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1. Objective

Although the development of new methods of radiation treatment delivery, such as radiosurgery, offers patients the hope of improved outcomes, unselective application may represent an inappropriate use of expensive medical technology.

2. Method

An audit was performed to determine whether patients with brain metastases treated with radiosurgery were eligible according to previously approved patient selection guidelines. In the 12 years from September 1988 to August 2000, 116 patients were accepted for either in-house (110 patients) or RTOG protocols (6 patients). Recommended patient selection criteria included relapse following previous external beam irradiation, minimum 3 months from previous irradiation to radiosurgery, good performance status (ECOG 0-2) and age less than 70 years (in-house protocols).

3. Results

69 patients (59%) fulfilled all selection guidelines. 47 patients (41%) failed one or more criteria. The most common reason for failing the selection criteria was poor performance status ($n = 18$). The median survival (Kaplan–Meier) of all 116 patients following radiosurgery was 26 weeks (95% CI 21– 31 weeks). For those fulfilling all selection criteria, it was 30 weeks versus 15 weeks for those who did not (logrank $P = 0.019$). For patients of good performance status, the median survival was 30 weeks, whereas for those of poor performance status it was 7 weeks (logrank $P < 0.001$). A multivariate (Cox) analysis was performed in 109 cases (excluding 7 patients who did not have previous external beam irradiation). Performance status. age and time from previous external beam radiotherapy to radiosurgery were included in the model. This analysis confirmed poor performance status to be the main determinant of short survival ($P = 0.005$).

4. Conclusions

Radiosurgery did not improve the prognosis for the majority of patients with poor performance status over that expected from supportive care only. Optimal timing for radiosurgery and age restrictions, if any, remain to be determined. Radiosurgery, which is an expensive radiation treatment delivery technique, should not be used indiscriminately in the management of patients with brain metastases.

A controlled clinical trial of critical path analysis as a technique for continuous improvement in the care of patients with head and neck cancer

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The aim of the project is to demonstrate the effectiveness of critical path analysis as a tool for continuous improvement in the process of care for head and neck cancer. The study is a prospective controlled trial, using a stepped wedge design in five centres across the South and West region, over a 12-month period.

The multidisciplinary team at each centre was presented with the data from the previous 2 months activity, along with network and critical path analysis results for the duration of the study. The main outcome measures are improvement in the patients' pathway through the system, quality of life, anxiety and depression score for patients and change in culture of multidisciplinary team.

The data collection period finished in September 2000 for critical path analysis and multidisciplinary collaboration, with data analysis currently being undertaken. Measurement of patient quality of life undertaken at, treatment planning stage, 4 and 12 months follow-up.

We hypothesise that this reduction in process time, and the consequent quality improvements, lead to an improvement in quality of health and well-being for patients with head and neck cancer, and alters the culture of the multidisciplinary team in favour of increased team-working. Head and neck cancer was selected because of its intrinsic importance as well as its usefulness as a model for complex clinical oncology and other healthcare processes. We have performed a pilot study that has suggested that it is possible to apply critical path analysis to the complex, multidisciplinary setting of head and neck oncology.

Method prevention of seroma formation after breast surgery

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1. Purpose

Decreasing of seroma formation volume, decreasing of seroma expression and duration after breast cancer surgery utilising electrocautery dissection.

The most common complication following after breast cancer surgery utilising electrocautery (mastectomy) is seroma formations that worsen the quality of a patient's life and increase in a patient's day. Various methods are utilised for decreasing seroma volume and duration: post-surgical drainage, pressure garment, sewing on of skin flap, etc.

We are proposing the method of prevention seroma formation by processing of surgical wound by 0.15% sterile solution of sorbent's suspension 'Sillard-P' (Silicium dioxydatum colloidale) before suture.

78 patients were studied. 1-Group patients underwent radical mastectomy by Patey utilising electrocautery which performed processing of the surgical wound (while surface of wound) by 0.15% sterile solution of the sorbent's suspension 'Sillard-P' before application of suture. 1-Group consisted of 18 patients. 2-Group (control group) consisted of 60 patients who underwent radical mastectomy by Patey utilising electrocautery without wound processing.

2. Results

The existence of seroma in 1-group was short duration and disappeared on the fifth day. In 91% of cases, three puncture was performed just 3 times. 8.3% of patients had seroma duration of about 3 weeks, which can be explained as not qualitative processing of the axillary's region by the sorbent's suspension. 85% of patients in the control group had seroma with a duration of about 2 weeks.

3. Conclusions

Processing of surgical wound by 0.15% 'Sillard-P' suspension preventing seroma, decreasing seroma volume and duration improve a breast cancer patient's quality of life and decreasing in a patient's day.

Improving patient care for breast cancer patients in a hospital trust

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1. Objective

To develop a system to monitor and improve the standard of care given to patients in Tayside University Hospitals Trust.

2. Method

Prospective audit based on the Scottish Intercollegiate Guidelines Network guidelines and Clinical Standards Board for Scotland (CSBS) standard for breast cancer.

3. Results

Audit of 305 patients (age 26–99 years; mean age 63 years) diagnosed between 1 July and 30 June 2000, of which 233 had completed primary treatment, revealed that six out of nine key standards were met (Table 1).

Table 1
Performance against key standards [1]

Criteria	Standard %	Performance %
Seen within 4 weeks of GP referral	>70	84
Operated on within 6 weeks of first visit	>70	39
Started radiotherapy within 4 weeks of seeing oncologist	>70	16
Discussed at multidisciplinary meeting	100	90
Adequate axillary surgery	>85	98
Essential pathological details recorded	>80	>98
Radiotherapy after surgery for invasive cancer	>80	81
Adjuvant chemotherapy for postmeno, ER-positive, node-positive	>85	91
Entered into national clinical trial	>5	18

4. Conclusions

The audit has highlighted many areas of good practice; however, the long intervals between first clinic visit, definitive surgery and radiotherapy need attention. Organisation changes in the last 3 months (1 July 2000–30 September

2000) have resulted in 77% of patients being seen within 2 weeks of GP referral. Further consideration is being given to the need to reduce waiting times for surgery and radiotherapy. Prospective audit will allow continuous monitoring of the quality and method of delivery of the service, facilitating improvement in the quality of care provided to breast cancer patients.

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Economic and business considerations in providing new radiotherapy facilities

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Over the past 2 years, there have been over 50 linear accelerators purchased for radiotherapy departments as part of the government's drive to invest in and provide modern cancer services to improve outcomes. CT scanners, simulators and treatment planning systems will be next. Whilst welcome news in the short term, for those struggling to work with outdated and unreliable equipment, it is argued here that the scheme is economically flawed and counter-productive to maximising long-term outcomes. Better value and higher lifetime specifications can and have been achieved by analysing the future needs of a radiotherapy department rather than 'replacement item' schemes. The author is Project Manager for one of the largest private finance initiative (PFI) schemes in the UK to provide state of the art radiotherapy facilities at the new Norfolk and Norwich Hospital. Some of the techniques and initiatives used to obtain best value for money are presented. This paper does not intend to promote the PFI but considers the economic and business principles that should be a requirement of any purchasing arrangement. From the outset, the Norwich 2 project has focused on the procurement of a service, as opposed to equipment. This required the radiotherapy department to define clinical 'needs' rather than 'wants' and be specific about the required level of service to meet demands. It was also important to identify and allocate risks associated with the delivery of radiotherapy and ensure that taxpayers get good value for money through the transfer of appropriate risks.

The estimation of the drug's consumption (citostatics and antiemetics) in IOCN using the Bayesian analysis

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For a better use of the financial resources it is necessary to anticipate the consumption per month of the drugs used in our hospital.

For this purpose, data were collected about patients, type of disease and drugs used in recent years.

In the paper, a mathematical model is constructed based on these data: the model permits to estimate the consumption of the drugs for the next month(s).

The Bayesian analysis was used in the elaboration of the model.

Three doxorubicin-containing schedules in advanced breast cancer

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1. Objective

The aim of this study was to investigate the influence of adriamicyn dose on results of advanced breast cancer treatment.

2. Method

From 1995, 100 patients aged 38–64 years had been treated. All patients had not received prior adriamicyn. 32 patients were treated after original schedule A(inf)CF (doxorubicin (A) 20 mg/m^2 24 h from 1 to 5 days as 120-h continuous infusion, 5-fluorouracil (5-F) 500 mg/m^2 1 day i.v., cyclophosphamide (C) 500 mg/m^2 1 day i.v.). 34 patients were treated after schedule CAF (A 50 mg/m^2 day i.v., F500 mg^2 1 day i.v.. C 500 mg/m^2 1 day i.v.). 34 patients were treated after schedule CAF (A 30 mg/m^2 1 and 8 day i.v. F 500 mg.m^2 1 and 8 day i.v. C 100 mg/m^2 from 1 to 14 day i.m.). Performance status (ECOG) was 0–2. There were 42, 37 and 35% women in a premenopause at group A(inf)CF, FAC and CAF, respectively. There were metastases in bone in half of all cases, in a third in lung and pleura and in a fifth of the all cases in regional lymph nodes, skin and liver.

3. Results

Each patient received not less than three courses of presented chemotherapy schedules. The average course doses were 140, 80.5 and 73 mg for A(inf)CF FAC and CAF. Complications of A(inf)CF included leucopenia I–II gr. 40.6%, III–IV gr. 11.8%, anaemia I–II gr. 7.9%, stomatitis I–II gr. 24.7%, III gr. 2.9%, nausea vomiting I–II gr. 22.7%, III gr. 3.9%, alopecia I–II gr. 100%.

Overall responses were as fol1ows in A(inf)CF group complete response (CR) 12 patients, partial response (PR) 13 patients, stable disease (SD) 4 patients, progressive disease (PD) 3 patients in FAC group CR 7 patients, PR 14 patients, SD 7 patients, PD 6 patients in CAF group CR 3 patients, PR 11 patients, SD 12 patients, PD 8 patients. Objective response rates have been 78.1, 61.7 and 41.2% for A(inf)CF, FAC and CAF (A(inf)CF and FAC versus CAF *P*&#6l500: 0.05). The median survival was estimated to be 19.2, 12.4 and 6.9 months for A(int)CF, FAC and CAF, respectively.

4. Conclusions

The schedule of adriamicyn continuous infusion plus 5-F plus cyclophosphamide seems to have activity in the treatment of advanced breast cancer and acceptable toxicity.

Development of a regional database for haematological malignancies (STAndardised Registration) STAR — in collaboration with the Cancer Registry

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Accurate and complete registration of malignancies is essential for meaningful analysis of epidemiology, management and outcome. Following concerns raised by East Anglian haematologists regarding both the quality and timeliness of Cancer Registry data for haematological malignancies, a collaborative project with the Registry was undertaken to develop a central database for haematological malignancies, held at the Cancer Registry.

One of the main problems identified by Cancer Registry staff was the multiplicity of haematological diagnoses. Thus, the first priority was to develop a list of agreed diagnoses, based on the new LCD10 classification. Patients submitted to the registry database with a diagnosis not on the 'approved' list are referred back to the reporting doctor by the Cancer Registry coder for review. In this way, standardised registration (STAR) in a previously difficult area has been achieved.

The aims of this project are to collect accurate data on haematological malignancies, to create ownership of the data for individual consultants and the regional group, to provide analysis in a timely fashion and to feed into the Cancer Registry database (avoiding duplication of effort). At this stage, the data collected is basic: demographics, diagnosis and treatment details including type and whether entered in a trial (and if not, why not). In addition, Calman-type timeliness data are collected. Notification to the database is at present on a single-sided form of A4 paper but will soon be done electronically. The data are entered onto the database as soon as it is received to enable timely reports for haematologists. The data are also entered onto the Cancer Registry database to start the normal registration process. So far, 10 hospitals submit data. Reports are generated on a 3-monthly basis stating the number of registrations per centre. More detailed reports are available on request, including analysis by diagnosis. Future plans are to secure central funding, to develop electronic links between hospitals and the central database and to extend the data collected in accordance with minimal datasets (these have yet to be published).

Standards, options and recommendations for endocrine therapy in patients with non-metastatic breast cancer: an update

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1. Background

Since 1993, the French Federation of Comprehensive Cancer Centers (FNCLCC) has been developing clinical practice guidelines (CPGs) for oncology known as the Standards, Options and Recommendations (SOR). The SOR for a given clinical situation are based on best available evidence for that condition. The decision to distinguish 'standards' and 'options' allows for the identification of clinical situations where there exist absolute indications or contra-indications ('standards') and situations where there ate several indications ('options'). The 'recommendations' allow for the weighting of the options according to the level of evidence (levels A, B, C and D). The development process involves multidisciplinary experts groups and practitioners feedback. One of the 50 guidelines which has been developed was for the management of patients with non-metastatic breast cancer. These SOR, published in 1996, concerned all aspects of patient management from diagnosis to follow-up.

2. Objective

To review data from recent literature in order to update, according to the general methodology, the SOR for endocrine therapy in patients with non-metastatic breast carcinoma.

3. Methods

The general methodology developed for the SOR updating process included: (1) multidiscplinary working parties, (2) literature searches from specifics questions by a librarian to find supporting evidence, (3) critical appraisal of the evidence, (4) drawing up of the recommendations and decision trees and (5) validation of the guidelines by a panel of experts (in the field of surgery, radiation oncology, medical oncology, radiology, pathology, biology, statistics and methodology) working in French cancer centres and others institutions (public hospitals and private clinics).

4. Results

In the case of unfavourable prognostic factors (N+ or N− with one or several poor prognostic factors), standard adjuvant treatment will depend on menopausal status (or age of the woman) and on oestrogen-receptor stains (ER) women with ER− tumours will not take advantage of endocrine therapy). Standard treatment: tamoxifen alone (20 mg/day during 5 rears) for postmenopausal women with poor prognostic factors and ER+ tumours. Option treatment: For premopausal women or younger than 50 with ER+ tumours: ovarian suppression &#61617: tamoxifen &#6l617; chemotherapy. For postmenopausal women or older than 50 with ER+ tumours: tamoxifen+chemotherapy.

In the other cases (N− without poor prognostic factors), the standard is no medical adjuvant treatment. Option treatment if ER+: tamoxifen.

5. Conclusion

The updating SOR process including an independent review allows to provide the medical community with updated and validated guidelines, easily used in current practice.

Developing a useful quality system audit and integrating it with other types

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Quality system audits typically test that you 'do what you say you do'. We call these compliance audits. Initially, this is very useful but the benefits rapidly disappear. The main reason is that compliance audits do not ask the question 'should you be doing what you say you do?'.

In Edinburgh, we have developed a hierarchy of audit methods, each with differing scopes and objectives. Currently, this stands at more than 10 levels. In addition, we have attempted to integrate our internal audits with any (and every) external assessment from accreditation and certification surveys of systems to clinical trials. Internally, we have experimented linking a quality audit into a 'traditional' clinical audit. This will develop further by linking into the clinical governance framework and other clinical standards such as SIGN guidelines.

In this paper, we describe our audit tool and, by way of illustration, we report recent use of the different levels of the audit hierarchy. All assessments require resourcing. We include our experience of effectiveness and efficiency of the various methods in terms of relative 'time' costs to the organisation for the staff involved.

Pilot independent audits of IS09001 quality systems by professionals from sister radiotherapy departments

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Formal systems such as ISO9000 place great emphasis on self-audit as a mechanism to assure quality of service. This may be supplemented hr external verification of adherence to the requirements of the standard by certification bodies. Benefits are derived from this combination but the approach is not above criticism.

Certification bodies are commercial organisations who, although specialising in auditing sectors such as healthcare, rarely have work experience in radiotherapy. Hence, their expertise is not in the application of the standard but in the standard itself. Conversely, 'internal' audits, although requiring a specialised skill, mostly check performance against departmentally defined work standard specifications. These internal 'compliance' audits perhaps suffer from lack of probing questions such as 'why do we work this way?'. To include this aspect requires some objectivity while still retaining detailed knowledge of the field of work and context in which the system is applied.

Here, we describe an additional audit level where internal quality experts who are also practising professionals perform 'cross-audits' of collaborating sister departments. An outline of the results of these pilot 'professional' quality audits is given here together with the experiences of, and benefits obtained by, both departments.

Extending ISO9001 to include medical decision making in head and neck cancer

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1. Objective

Head and neck cancer treatments in Edinburgh start with a preliminary decision at a multidisciplinary meeting of surgeons and oncologists on the best course of action. This is then discussed and agreed with the patient. The subsequent treatment is usually combinations of surgery, radiotherapy and chemotherapy. The latter two are governed by a formal quality system. The greatest potential for error is communication breakdown at the boundaries between differing expertise. Better assurance of quality of care is achieved by being aware of this and by better design and standardising these 'care pathways'.

2. Method

Clarification of care management is achieved by documenting current best practice. This is an excellent training aid for junior staff and also a useful communication tool. Occasionally, too little focus is placed on the process of care management. This paper describes the role out of our ISO9000 system from treatment delivery to include medical decision-making prior to treatment. It describes how the process was mapped to follow the patient journey. This mapping allowed clarification of the documentation in use, the quality control checks in play and the interfaces between different groups. The map also indicates appropriate places for audit.

3. Conclusions

The process map is a single visual and detailed description of a care pathway. Care management of patients is defined and subject to audit in exactly the same way as any other part of the radiotherapy or chemotherapy process. The paper also indicates some of the ideas on how to improve on this patient pathway.

Updating cancer of the cervix recommendation

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1. Background

The 'Standards, Options and Recommendations' (SOR) project, started in 1993, is a collaboration between the National Federation of the French Cancer Centres (FNCLCC), the 20 French Cancer Centres (CRLCC) and specialists from French public universities, general hospitals and private clinics. The main objective is the development of clinical practice guidelines to improve the quality of healthcare and outcome for cancer patients. The methodology is based on literature review and critical appraisal by a multidisciplinary group of experts, with feedback from specialists in cancer care delivery. One of the 50 guidelines which have been developed is for the management of cervical cancer. The validity of the recommendations is dependent on the quality and up-to-date nature of the underlying evidence and its critical appraisal.

2. Objectives

To update, according to the methodology of SOR, the SOR of carcinoma of cervix, in particular the place of concomitant radiochemotherapy.

3. Methods

The updating process involves: (1) searching for the evidence using Medline (to April 1999) and the personal reference lists of experts, (2) critical appraisal of the evidence and (3) the definition of the recommendations, and, and (4) review by independent national and international reviewers.

4. Results

The principal recommendations in the treatment of cancer of the cervix are: (1) stage IA disease: surgery is standard treatment (level of evidence B); (2) stages IB, IIA and proximal IIB with good prognostic factors. There is no difference in efficacy between radiotherapy alone, surgery alone and the combination of radiotherapy and surgery, irrespective of whether the tumour size is greater or less than 4 cm (level of evidence C); (3) stages IB, IIA and proximal IIB with bad prognostic factors (tumour size greater than 4 cm and/or invasion of pelvic nodes and or microscopic invasion of the parametnum) and without para-aortic nodal invasion, concomitant radiochemotherapy can be considered as standard treatment. For stage III and IV disease, radiotherapy (both external radiotherapy and brachytherapy) is standard. The benefit of radiochemotherapy is less clear for stages distal IIB, III and IVA without para-aortic nodal invasion (level of evidence C) and must be confirmed (expert agreement). The results of concomitant r

Screening variation: its impact on uptake and coverage for the breast screening programme

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1. Objective

Evaluation of the current formulae used to measure uptake and coverage based on data collected during 10 years of running the programme in the Warwickshire, Solihull and Coventry Breast Screening Unit.

2. Methods

The statistical package SPSS has been used. Methods include descriptive analysis and contingency tables using the contingency coefficient.

3. Results

Using data from the last 10 years of running, it is shown that 79% of invitations do not undergo screening variation and that 98% of those invitations have been screened within 40 days of the initial invitation.

The presence of screening variation in invitations near the closing dates for the screening year leads to inaccurate information in the actual measurements of uptake and coverage. This results from the categorisation of women invited but not screened during the year as non-attenders. Those women are never counted by the actual formulae for uptake and coverage. The influence of these findings is taken into account when suggesting new and more appropriate relevant formulae.

4. Conclusions

There have been detected problems with the accuracy of the current formulae. New formulae including the impact of the screening variation are proposed for measuring uptake and coverage.

Combination of gemzar with 24-h infusion 5-fluorouracil in patients with advanced pancreatic cancer (APC)

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Among agents with reproducible response rates of at least 10–20% in APC are gemcitabine (Gem), MMC and 5-fluorouracil (5-FU). In a pilot study since 1999, we assessed an efficacy of combination GEM + 5-FU in patients with unresectable pancreatic cancer.

1. Methods

24 patients (11 men and 13 women) received gemcitabine 1000 mg/m^2 i.v. days 1, 8, 15, 5-FU, 1.5 g/m^2 24-h infusion day 2. The regimen was repeated every 28 days. Population characteristics and results of trial are shown below. No. of patients 24.

Available patients: for response 18; for toxicity 21. Median age 51; Karnofsky PS 60/70/80/90 4/9/9/2. Disease symptoms: abdominal pain 20 (83.3%); loss weight 22 (91.6%); weakness 22 (91.6%). Positive markers 17 (70%); median survival 24 weeks. CR/PR/SD/PD 0/3/0/5. Response rate 16.6%; stabilisation 55.5%; clinical benefit response 33.3%. 50% reduction of markers 8 (47.5%). Duration of effect 20 weeks; median time to progression 17 weeks. Toxicity included III–IV grade: neutropenia 24%; trombocytopenia 12%; flu-syndrome 31%; edema 19%; trombophlebitis 14%: diarrhoea — 3 patients from 21.

2. Conclusion

Regimen is relatively active in APC (more than OR in monotherapy with Gem). The toxicity profile is manageable.

Childhood cancer survival in five autonomous regions of Spain: data from the National Childhood Cancer Registry of the Spanish Society of Paediatric Oncology

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1. Objective

The National Childhood Cancer Registry (NCCR) of the Spanish Society of Paediatric Oncology (SEOP) is a central hospital-based cancer registry. Overall completeness for Spain is nowadays 70%, with big differences between regions, from 36 to 100%. The objective of this work is to describe the results of the SEOP in terms of survival in the autonomous regions where completeness of the Registry is high.

2. Method

Period of study, 1990–1998 (cohort 1990–1994 for survival). The criteria to select the regions were: completeness $>90\%$ and, at the same time, follow-up until 5 years from diagnosis $>90\%$.

Completeness was calculated taking as a reference the expected number of incident cases by region. This number was estimated from the average age-specific incidence rates of childhood cancer for Spain published in International Incidence of Childhood Cancer II, and the population figures published by the National Institute of Statistics. World population was used for age standardisation and Kaplan–Meier for survival rates. Follow-up was active.

3. Results

The regions selected were Aragón, Baleares, Catalunya, Euskady and Navarra; 1889 new cases were registered during 1990–1998. Completeness for the five regions combined was 96%. Standardised registration rate for all cancers was 136.3 per 106. Observed survival rates: all cancers: 72%; ALL: 73%; Hodgkin: 95%; non-Hodgkin: 76%; CNS:

68%: sympathetic: 66%; retinoblastoma: 100%; kidney: 85%; hepatic: 44%; bone: 65%; soft tissue: 70%; gonadal: 88%; epithelial: 69%.

4. Conclusion

Results of the Spanish Paediatrics Oncology that approximate those of other Western countries are shown. Nevertheless, a percentage of missing cases is known and retrospective data gathering is being made to improve completeness.

Axillary lymph-node dissection of breast cancer patients with T = 3 sm: N0 M0 stage and its influence on result of treatment

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1. Background

The aim of our study was to evaluate if axillary dissection could improve 3-year survival breast cancer patients T = 3 sm: N0 M0 stage with non-palpable lymph-nodes.

2. Methods

We have studied local control and overall survival (follow-up 3 years) of 351 patients with breast cancer. 141 patients were treated by mastectomy and 210 patients by lumpectomy. Total axillary lymph-node dissection was performed on 186 patients and axillary lymph-node dissection I–II levels on 64 patients; axillary lymph-node dissection was not performed on 101 patients.

3. Findings

A reliable distinction in distant-disease-free survival and mortality was not detected (94.4 and 4.1% after mastectomy; 92.4 and 3.9% after lumpectomy). We did not define reliable distinctions in 3-year survival dependent on the kind of axillary lymph-node dissection (total axillary lymph-node dissection 95.7%, axillary lymph-node dissection I–II levels 97.1%, without axillary lymph-node dissection 94.2%). Radiation therapy after surgery did not improve result of treatment. Interpretation of axillary lymph-node dissection for patients with non-palpable lymph-nodes does not make sense. In donatable cases, when precise evaluation of axillary lymph-nodes is difficult, or impossible, it is necessary to evaluate lymph-nodes during surgery or by removing axillary lymph-nodes of I–II levels. Deterioration of prognosis depends basically on biological specialty of the tumour and the women's reproductive function, but does not depend on the kind of axillary lymph-node dissection.

Using quality to survive managed care

P.D. Eisenberg, B. Head, D.S. Gullion

With increased focus on value and cost in health expenditures, oncologists require a new set of tools to assure delivery of high quality care while remaining competitive in a rapidly evolving healthcare system.

How physicians can use quality outcomes data to assure best practices and appropriate clinical results will be reviewed. An overview of how a practice was successful in negotiating fair reimbursement for services due to the regular review of outcome data to ensure quality cancer care will be given from experience.

This practice was recently cited in the Institute of Medicine's report, 'Enhancing Data Systems to Improve the Quality of Cancer Care'.

At the conclusion of this workshop, the participant should be able to:

1. Identify strategies for measuring performance against survival, treatment and established benchmarks found in medical literature and guidelines written by professional societies.
2. Compile data and present results in a spreadsheet format.
3. Identify strategies for using performance data in negotiating contracts with third-party payers.

Socioeconomic factors and outcome — colorectal cancer survival in Wales

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Population-based relative survival of colorectal cancer patients is the 'bottom line' unbiased indicator of the overall quality of cancer services for this common cancer. Geographical variations in this have been noted within both the UK and Europe. Socioeconomic deprivation is a proxy for a number of relevant factors in the patient pathway. In the recent ONS survival publication, Wales had the highest variation in colorectal survival with deprivation (10%). The main purpose of this study is to apply recent advances in the mapping of disease rates to the problem of mapping colorectal survival in small areas of Wales and examine the effect of covariates.

Wales is well known as an area with large variation in deprivation. We used population-based colorectal incidence in Wales for two recent cohorts, 1985–1989 and 1990–1994, followed-up to the end of 1999. Standards methods were used to adjust for differences in background mortality and variations in age distribution; e.g. life tables and Cox regression modelling were used to look at the effect of covariates. Results are displayed using GIS techniques.

Wide variations in 5-year relative survival were found at Unitary Authority level (25%). These were smoothed for mapping. Variations in socioeconomic factors were seen to 'explain' a significant proportion of this geographical variation in survival rates in Wales. Further detailed clinical studies are indicated.

Improving data quality in cancer registration — a pilot study of death certificate follow-back

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The rate of death certificate only (DCO) registrations is an indicator of a cancer registry's data quality — e.g. a high DCO rate could indicate underregistration from other sources. However, there is uncertainty about the accuracy of information in death certificates [1]. It has been recommended that all cancers recorded using death certificate notification should be followed back to obtain further information [2]. We report the results of a pilot study to investigate DCO rates in Wales.

A data validation officer undertook a follow-back exercise on a sample of DCO registrations within a selected area of Wales. The sample consisted of death certificates where the place of death was stated as a hospital. Using the patient's details from the death certificate, we retrieved the patient's hospital casenotes to ascertain the diagnoses for that hospital episode.

The findings corroborate recommendation for timely follow-back of all DCO registrations. Casenote review indicated that some cases should have been registered through our routine hospital activity dataflows (PEDW). While it is possible that some death certificate registrations resulted from data transfer anomalies, clinical coding errors or incompleteness of PEDW submissions by Trusts, we found that there were statements of 'probable/possible' diagnoses in the casenotes which were then recorded as definitive diagnoses on death certificates.

This study highlights the need for more work in three areas: (1) clarification is necessary on the national guidance on the clinical coding of 'probable/possible' diagnoses, i.e on the recording of such diagnoses from casenotes; (2) cancer registries continue to utilise multiple sources of data to ensure completeness of cancer registration data; (3) death certificate follow-back is essential to ensure accuracy and completeness of cancer registration data.

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Community-based breast conservation for ductal carcinoma *in situ* using lumpectomy and radiation therapy

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1. Objective

Randomised trials and major institutional experiences find that lumpectomy followed by RT (L + RT) enhances local control in ductal carcinoma *in situ* (DCIS). However, little outcome data exist from community centres to document BCT applied outside the clinical trial setting. We present outcome data from three offices of the Radiotherapy Clinics of Georgia.

2. Method

110 women were treated with L + RT for DCIS from 1 April 1985 to 31 October 1999. Median age was 59 years (range 30–90 years). Detection was by mammography in 88 (80%) and palpation in 22 (20%). Size distribution was 48 (44%) <5 mm, 32 (29%) 6–10 mm, 22 (20%) 11–20 mm and 5 (5%) >20 mm. 52 (48%) were ER/PR-positive. All women received megavoltage tangent breast irradiation to 45–54 Gy; 104 (95%) received a 10–16 Gy boost. None received adjuvant chemotherapy. Median follow-up is 37 months (range 12–170 months).

3. Results

Five events were recorded: two local recurrences, two second primaries in the opposite breast and one distant failure. The actuarial local recurrence rate was 2 and 10% at 5 and 10 years, respectively. Cause-specific survival and overall survival were 96 and 89% at 10 years, respectively.

4. Conclusions

Outcome analysis in the community setting is important to ensure that results of therapy remain consistent with established benchmarks. This series documents results of L + RT for women with DCIS comparable to other reported series.

Outcome of breast conservation for invasive carcinoma in the community setting

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1. Objective

Because of the success of international cooperative trials, breast conservation (BCT) is now widely practised in the community setting. However, few outcome data exist to document efficacy of BCT outside the clinical trial setting. We present BCT outcome data from three offices at the Radiotherapy Clinics of Georgia.

2. Method

622 women were treated from 1 July 1985 to 3 October 1999. Median age was 60 years (range 24–92 years). 287 were mammogram detected (49%) and 290 (51%) via palpation. Final staging was 400 (69%) stage I, 168 (29%) stage II, and 9 (2%) stage III. 358/501 (71%) tested were ER/PR-positive. Patients received 45–50 Gy to the breast via tangent fields and a 10–16 Gy boost to the tumour bed. 174 (28%) received adjuvant chemotherapy. Median follow up is 45 months (range 12–166 months).

3. Results

Thirty-nine events were recorded: 11 local recurrences and 28 distant failures (four prior local failure). Local recurrence rate was 3 and 5% at 5 and 10 years, respectively. Event-free survival was 92 and 88% at 5 and 10 years, respectively. Cause-specific survival and overall survival were 95 and 72% at 10 years, respectively.

4. Conclusions

Outcome analysis is important in the community setting to ensure the quality of treatment given to patients is consistent with established benchmarks. This series documents results of BCT for women with invasive breast cancer comparable with reported international series.

Sentinel node biopsy on melanoma patients under local anaesthesia: is it worthwhile?

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1. Objective

Since, in most cases, sentinel node biopsy (SNB) consists of the excision of superficial nodes, an approach under local anaesthesia has been proposed. To decide whether to indicate the SNB under local anaesthesia (LA), this approach has been discussed with all patients during the outpatients clinic.

2. Method

At the European Institute of Oncology, 126 melanoma patients where treated with SNB from March 1999 to August 2000; of these, 60 were operated under LA. To investigate the validity of the procedure, patients' and surgeons' opinions were taken into consideration by filling in a questionnaire at the end of the surgical procedure. The results of the patients' questionnaire (nine questions) are the following: (1) Was the information received before the surgical procedure were adequate? Yes 56, no 1, could be more clear 3; (2) Do you think that the operation lasted longer then expected? Yes 13, no 47; (3) Did you feel faint during the operation? Yes 11, no 49; (4) Did you feel pain during the operation? Yes 27, no 33; (5) Describe the pain you felt during the operation. 0 no pain, 10 maximum pain, the median response has been 4 + 2. (6) Would you repeat this operation under local anaesthesia (LA)? Yes 48, no 12. Most patients were admitted the day before the operation and discharged a few hours after the operation. (7) They were asked whether they would have preferred to stay in the hospital more days: yes 5, no 55. (8) They were asked whether they would have preferred just a day surgery admittance: yes 18, no 42. (9) Would you suggest to another patient to perform this operation under LA? Yes 52, no 8.

3. Results

Results of the surgeons' questionnaire (10 questions): (1) Did the patient faint? Yes 6, no 54; (2) Did the patient have venous access? Yes 56, no 4; (3) Did the patient receive e.v. sedation? Yes 23, no 37; (4) Which kind of drugs were used to sedate the patient? Benzodiazepins 18, major sedation 5; (5) Would you repeat this operation under LA? Yes 57, no 3; (6) Did you plan the operation with the support of an anaesthetist? Yes 1, no 59; (7) Did you need the support of an anaesthetist during the operation? Yes 7, no 53; (8) How much time did the procedure last? <15 mm 3, <30 mm 46, >30 mm 11; (9) site of the SNB: neck 1, axilla 20, groin 38; (10) type of local anaesthetic: bipuvacaine 0.25% to all patients; volume injected: <50 ml 28, >50 ml 32; Did you need to repeat the injection of anaesthetic during the operation? Yes 59, no 1.

4. Conclusions

The conclusions we can draw are that this is a safe procedure to be indicated under LA; the majority of patients found it reasonable to be operated on and, with prior knowledge of the experience, would have repeated it again under LA; no patient complained of the pain caused by the injection of the vital die (patent blue) performed 5 min before the local anaesthetic. From the point of view of the hospital organisation, an operation under LA is much easier to manage than a general anaesthesia.

Sphincter-saving resection at the rectal cancer surgical treatment

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Sphincter-saving resection for tumours located in the upper ampular and recto-sigmoid parts of the rectum have been elaborated and successfully applied in clinical practice. Surgical treatment of the middle ampular tumours located at 5–10 cm from the anus still remains a puzzling problem, mainly due to the necessity to retain the closing function of the rectum and to ensure the radical character of the operation at the same time. Trying to solve the problem of middle ampular tumours by surgical treatment, we have elaborated the method of abdominal–anal resection of the rectum with the levator sphincter plastics. The experimental (I) group was formed of 87 patients operated in accordance with our method, the control (II) group consisted of 105 patients operated traditionally. The age of patients of both groups varied from 36 to 70 years old; the ratio of men/women equalled to 1/2; histological verification revealed the adenocarcinoma in the majority of cases. Within the postoperative period in the I group, 1 patient died, whereas in the control group 3 died. Postoperative complications occurred in 7 patients of the I group and in 18 patients of the control group. The method of sphincterometry was used to assess the functional results of anal continence before the operation and 3 and 6 months after the operation. It was found that 6 months after the operation 64 patients of the

experimental group well restrained excrements and gases. 14 patients restrained excrements but not always gases and 9 patients poorly restrained excrements and gases. In 46 patients of group I the sphincterometry indexes reached 80%, in 9 patients 65%, and in 7 patients 50% level compared with the preoperative values. In the control group, 41 patients well restrained excrements and gases, 15 patients restrained excrements but not always gases, and 49 patients poorly restrained excrements and gases. The sphincterometry indices in 26 patients reached 70%, in 43 patients 50%, and in 23 patients 17–35% of the preoperative level. The results obtained allow to one to consider the method of abdominal–anal resection of the rectum with simultaneous sphincter plastics comparing with the traditional abdominal–anal resection as more effective for improving anal continence in the postoperative period. It is noteworthy that the newly proposed method does not require any special instruments and expansion of operation volume.

Use of a new preparation in oncology

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1. Objective

A search for substances capable of regulating the development of haemopoietic and lymphoid cells and increased immunity is urgent at present. A new biologically active preparation, Blastolen, affecting the proliferative activity of haematopoietic cells and capable of acting as an immunomodulator, has been developed.

2. Method

The preparation is obtained from a bacterial strain *Lactobacilus bulgaricus*, using enzymatic and chemical hydrolysis.

3. Results

A series of *in vitro* experiments were performed where culture methods were used in order to establish ways in which the preparation afffects the functional activity of cells precursors of granulomonocytopoiesis in normal subjects and in different disorders of the blood system. Results of the studies have shown that the dose-dependent effects of Blastolen manifest themselves in different states of bone marrow haematopoietic function. The preclinical comprehesive studies showed the immunomodulatory action of Blastolen which stimulated the cellular and humoral immunity and demonstrated antiradiation and antitumoral properties. Blastolen was used in treatment of oncohaematology patients with intensive course of chemotherapy. Clinical results show the stimulation effect of a haemopoiesis and the immunity system, and an increase of white cells, a decrease in anaemia and the stabilisation of immunological factors.

4. Conclusions

The preparation can be used in the treatment of cancer patients.

Immunoglobulin regulation of cells embrional mesenchymas (CEM) — possible way to block tumour progression (TP)

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1. Objective

The problem of regulation of cell functions is urgent. The aim of the investigation was to create a new preparation for regulation of development of cells on the basis of xenogenic immunoglobulins (XIG).

2. Method

The method used for obtaining the preparation included a cycle immunisation of animals with antigenic material containing CEM. Immunogobulins were separated from immune sera with following control of their specific activity.

3. Results

Experiments in tissue culture of bone marrow cells from patients with acute leukaemia before beginning traditional cytostatic therapy showed that in 4 out of 11 cases adding 11×10^{-7} mg/ml XIG resulted in normoplastic type of laemopoesis. The control in cells after contact with non-immume globulin in same concentrations had only leukaemic type of growth.

4. Conclusions

Tumour tissue is persistent with normal cells (NC) in concurentive relations. Prevalance has more actively proliferative clone. Methods which destroy cells cannot solve the problem of TP. Non-specific stimulation of survived NC has minimal effect. Use of exogenic germinal and mature cells leads to immunological conflicts. There are CEM, which persistent in the postnatal period and possibly provide the physiological regeneration of tissues (derivate of mesenchima). Their low metabolic activity gives a chance to restore by surviving NC beside TP. The preparation, which specifically stimulates a CEM to mitosis enhances physiological regeneration and restitutes the concuration NC with TP of oncological cells on I stage. On II stage it is possible to reduce the tumour by increasing the quantity of natural killer cells (which have mesenchymal genesis). We can to propose that the remedy prepared on the base of XIG by our technology will be able to stimulate CEM *in vivo* and to block TP.

Can quality systems drive clinical standards improvements and deliver clinical governance in cancer units?

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Following a well publicised 'radiation incident' in the late 1980s, ISO9000 quality assurance systems have become common in radiotherapy departments in the UK. Their primary aim was to assure safety by tightening up on work practice and to provide management with confidence that there was appropriate control of these practices.

A large number of initiatives were devised in order to encourage self-monitoring leading to performance (service) improvements, for example accreditation schemes such as the Kings Fund Organisational Audit (now HQS) and clinical audit. Some of the initiatives have been helpful, others less so.

Now, control through accountability has arrived for medical doctors and the emphasis on tangible improvement has increased further. We call this clinical governance.

This paper discusses whether the currently established formal quality systems such as ISO9000, etc., can deliver parts of the clinical governance agenda. It suggests how these systems may be modified to cover more of the agenda. It also promotes additional mechanisms which supplement formal quality systems aimed at continuous improvement. When combined, this approach provides a sound basis for tangible service improvements.

Lymphoma chemotherapy — an audit of neutropenia, dose intensity and GCSF use in the UK

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1. Objectives

Retrospective evidence suggests a correlation between received dose intensity (DI) and outcome in the chemotherapy of lymphoma (Hodgkin's disease (HD)) and (non-Hodgkin's lymphoma (NHL)). The principal reason for dose modification is neutropenia, although data indicating the number of patients affected by neutropenia in clinical practice and its impact on overall DI received are limited.

The aims of the audit were to (1) record the incidence of neutropenic events (defined as hospitalisation due to febrile neutropenia. dose delay of $\geqslant 1$ week due to neutropenia, or dose reduction of $\geqslant 15\%$ due to neutropenia); (2) evaluate the impact of neutropenic events on overall DI received; (3) review the use of haematopoietic growth factor (G-CSF) and its impact on DI in patients with NHL or ND.

2. Methods

Data from 130 NHL and 47 HD patients (of all stages) were collected either prospectively or retrospectively from eight UK cancer centres.

3. Results

The most common chemotherapy regimens used for NHL were CHOP (73%) and PMitCEBO (19%) and for ND were ABVD (60%), ChIVPP/PABLOE (19%), and Stanford V (17%). Neutropenic events occurred in 34 and 68% of patients receiving chemotherapy for NHL and ND, respectively. Hospitalisations occurred in 10% and dose modifications in 38.5% of patients. Neutropenic events had a significant impact on the ability to deliver planned DI to patients in the audit, consequently, 29% received $<85\%$ relative DI (RDI), and 15% receiving ABVD, 11% receiving CHOP and 15% receiving 14-day regimens for NI-IL received $\leqslant 70\%$ RDI.

4. Conclusions

Patients who experienced one neutropenic event were likely to experience subsequent events, particularly patients on ABVD (69%). The use of G-CSF in routine clinical practice in the UK is low. G-CSF support administered to patients who experienced a neutropenic event significantly improved the ability to deliver planned DI ($P < 0.01$).

Optimising the side-effects of raltitrexed with appropriate supportive drugs: a prospective community hospital study

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1. Objective

The myelotoxicity of raltitrexed in the MRC-CR06 and PETAC trials were all related to diarrhoea, dehydration and renal impairment [1]. These protocols, however, offered little guidance on the optimal use of prophylactic supportive drugs.

2. Methods

In 58 consecutive patients with colorectal carcinoma between January 1998 and November 1999, we prospectively evaluated a supportive drug regimen of Ondansetron 8 mg and Dexamethasone (Dxm) 8 mg IV day 1. Dxm 4 mg bd oral-day 2, 4 mg od day 3, 0.5 mg od-day 4, then 0.5 mg od days 8–14. Ranitidine 150 mg bd and Nystatin 1 ml qds d 1–14.

3. Results

28 males, 30 females, average age 59 years received a total of 307 cycles (ave. 5.3/each), dose intensity 98% at 3 mg/m^2. Ave. activity and overall qol (cancer linear analogue scale) improved by 30% by the third cycle. There were no treatment-related deaths. 3 patients developed a flu-like pyrexial episode. 2 developed a DVT, 1 a pulmonary embolus, 1 a myocardial infarction. In 90% of the cycles, the neutrophile count had fully recovered by 21 days. 4 patients admitted with febrile neutropenia had associated diarrhoea and dehydration. The NCI toxicity grades (G) were: Diarrhoea G1 = 31%, G2 = 1.7%, G3/4 = 0%, Nausea G1 = 9%, G2 = 1.7%, G3/4 = O%. Vomiting G1 = 5.2%, G2 = l.7%, G3/4 = 0%, Stomatitis G1 = 3.4%. G2–4 = O%. Alopecia G1 = 17%, G2–4 = 0%, Anaemia G1 = 12%. G2 = 5%, G3 = 1.7%, G4 = 0%. Plats G1 = 10%, G2–3 = 0%, G4 = 1.7% Neuts G1 = 7%, G2 = 3.4%, G3 = 7%, G4 = 0%.

4. Conclusions

The low level of toxicity in these patients in comparison with what the manufactures reported at ECCO/99 [3] suggests that routine use of 5HT3 drugs reduced the severity of nausea and diarrhoea, preventing dehydration, and possible sero-concentration of raltitrexed — the likely cause of increased myelotoxicity. The dexamethasone reduced the incidence of cytokine associated pyrexia [2] and also improved fatigue and qol. The nystatin prevented stomatitis and oral candidiasis. Raltitrexed has convenient scheduling for an outpatient community unit and has demonstrated similar survival benefits to d e Gramond and Lokich regimens. Let us not throw the baby out with the bath water and perhaps future trials should be repeated with this supportive drug regimen to establish its true role in the colorectal chemotherapy arena.

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Investigation of the relative importance of factors leading to socioeconomic differences in survival from cancer

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1. Objective

To quantify the extent to which poorer cancer survival rates in lower socioeconomic groups can be explained by:

- stage at diagnosis
- delivery of optimum diagnosis and treatment
- comorbidity
- health behaviour.

2. Method

A feasibility study is being conducted in Swansea prior to development of an all Wales study. All newly diagnosed colorectal cancer patients resident in the local areas will be identified from the Cancer Registry. Four weeks alter the start of definitive treatment, all patients will he sent a postal questionnaire to collect data on demographic factors, socio-economic status, symptom history and behaviour, comorbidity and health locus of control. A 23% sample, stratified by response and by postcode-related deprivation index, will be interviewed when attending outpatients in order to validate the questionnaire.

The case notes of every patient will be used to abstract data on the above factors as well as stage at diagnosis, admission type, degree of specialisation of clinicians, time from GP referral to first hospital appointment, to definitive diagnosis, to start of treatment, diagnostic investigations, type of treatment and status at 3 months postdiagnosis.

3. Analysis

In this feasibility study, analysis will concentrate on response to questionnaire and interview, and proportion of data items retrieved from case note review, In developing the main study, which will include additional cancer sites where statistically significant differences in survival in different socioeconomic groups have been found, the analysis will include a multivariate proportional hazards model to assess the extent to which each factor explains the influence of socio-economics status on survival.

Implementation of the two week rule has little effect on diagnostic yield in colorectal cancer (CRC)

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1. Objective

Following the publication of guidelines for urgent referral of suspected colorectal cancer (HSC 1999/205), a central office with dedicated phone and fax lines was established to facilitate urgent GP referrals.

2. Method

Patients were assessed in designated urgent slots in existing clinics (coloproctology 60, other GI surgery 21, gastro-enterology 5).

3. Results

Eighty-six urgent referrals were received during the first 6 months: 70 (81%) were seen within 14 days of referral with a median wait of 8 days (range 2–60 days). Only 36 referrals (42%) were appropriate when assessed against the published guidelines and six of these proved to have CRC (three rectum, three colon). The diagnostic yield for appropriate referrals was thus 17%. A further 5 patients (14%) were found to have other serious conditions (two ovarian carcinoma, one renal carcinoma, one non-Hodgkin's lymphoma, one hydronephrosis). No CRC or other serious pathology was found in the remaining 50 referrals which did not meet the published criteria.

During the same 6-month period, a total of 77 cases of CRC were diagnosed: the remaining 71 cases presented via conventional referral routes (27 rectum, 44 colon).

4. Conclusions

Implementation of the 2-week rule will adversely affect time to diagnosis for most patients with CRC and will only improve diagnostic yield if referral guidelines are more stringently enforced.

Are patients with lung cancer seeing specialists?

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1. Objective

We wished to assess whether patients with lung cancer in the districts served by Mount Vernon Hospital were being seen by specialists and what proportion were receiving treatment and to develop strategies for improvement.

2. Method

The Thames Cancer Registry was asked to provide data on patients with lung cancer in the districts served by Mount Vernon Hospital. We selected January to December 1994, as we felt this data should be complete by now. From the minimum dataset, we extracted the hospital name, District Health Authority, treatment given (surgery, radiotherapy, chemotherapy), consultant seen and consultant specialty. Chest physicians, thoracic surgeons, clinical oncologists and medical oncologists were defined as specialists.

3. Results

A total of 1295 patients were registered to have lung cancer in the Mount Vernon catchment area from January to December 1994. Of these, 297 were seen at Mount Vernon and 998 were not. Of those not seen at Mount Vernon, 556 patients (56%) saw a specialist and 442 (44%) did not. 93% who saw a specialist received treatment or had a surgical diagnostic procedure.

4. Conclusions

It is recommended that patients diagnosed to have lung cancer should be seen by a specialist lung cancer team. Of our patients, 34% did not. We feel that establishing lung cancer networks to convey information about treatments and referral guidelines may improve this situation.

Outcomes of patients with primary bronchial carcinoma treated with radiotherapy from 1 October 1999 to 31 December 1999 in the Beatson Oncology Centre

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1. Introduction

Lung cancer is the most common cancer in the UK and the largest cause of cancer death. The West of Scotland has among the highest incidence in the world. The survival from lung cancer is poor and many patients will never receive anticancer treatment. This paper examines the survival of a cohort of West of Scotland patients referred for radiotherapy treatment and compares this to published survival data.

2. Method

Between 1 October 1999 and 31 December 1999, all patients with primary lung cancer treated with radiotherapy were identified from the Beatson Radiotherapy patient database. For each patient, the following were recorded: age, tumour type/stage, distance from residence to Glasgow and waiting time for treatment. Radiotherapy treatment details were also collected in each case: whether treatment was to primary tumour site or to a metastatic site, whether treatment was radical or palliative in intent, whether one or more courses of radiotherapy were given in the time period and any gaps or delays in radiotherapy treatment.

3. Outcomes

The primary outcome (still to be assessed) is survival for the whole patient group. This will be discussed in relation to published survival data and with reference to the demographic details of the patient cohort.

Reduced cancer risk after successful antiviral interferon therapy of chronic inflammatory bowel disease?

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The aetiology and pathogenesis of ulcerative colitis and Crohn's disease remain unclear, so exact causal therapy is not yet possible. In our UC and CD patients, viral infections, particularly of the upper respiratory tract, aggravated the underlying disease. This had led us to use *in situ* hybridisation to investigate intestinal mucosa for viral agents such as HSVI + II and Epstein–Barr virus DNA. We found the DNA in the cell nuclei in the surface and glandular epithelia of the affected mucosa of the small intestine and the colon. These findings indicated that viruses may exacerbate these inflammatory bowel diseases.

1. Methodology

Over a period of 1–4.7 years, we treated 16 patients aged 25–65 years with Crohn's disease (12 patients) or ulcerative colitis (4 patients). All patients had been taking either prednisone or prednisolone and/or 5-ASA or SASP and/or

azathioprine or metronidazole for many years. In 12 of the 16 patients, EBV and/or HHV6 DNA were found in the affected mucosa. After stopping the abovementioned basic therapies, we commenced treatment with 6 million units of interferon α2a subcutaneously three times per week for at least 6 months. 4 of the patients showed no signs of improvement. For the others, therapy was continued until patients were clinically symptom-free and viral DNA could no longer be traced in their mucosal biopsies.

2. Results

With interferon therapy, 12 of the 16 patients showed slow but continual improvement. Particularly impressive was the remission of the extra-intestinal manifestations, which did not recur in any patient during interferon therapy. 4 patients did not show any improvement and the clinical symptom of diarrhoea continued.

3. Conclusions

For herpes virus-associated ulcerative colitis and Crohn's disease, interferon α2a treatment should be started as early as possible to prevent disease becoming chronic. Whether this kind of antiviral treatment will be as effective in the long term, and whether malignant transformation (herpes viruses are potential tumour inducers) will be delayed or prevented are questions that can be answered only by future long-term studies.

Is your QART system hard to use? Ours is available at the click of a mouse

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Radiotherapy, although a proven anticancer therapy, has the potential for damaging patients if inappropriately prescribed and/or delivered. It is therefore essential to have wide-ranging and highly detailed quality control checks with quality assurance procedures. The structure and content of the quality system can be flexible to suit the highly educated, skilled and experienced professionals forming the radiotherapy team.

Formal quality system documentation, which is appropriate to all radiotherapy staff groups at various times and locations within the radiotherapy process, should therefore be widely available. A paper-based system limits access to the documentation because of the finite number of copies in specific locations.

Consequently, a computer-based solution was devised. The system was designed to be available on every PC in the oncology network: easily maintained by the quality system administrator; simple and quick to access and user-friendly with navigation through the documents assisted by familiar hyperlinks.

Paper copies of the documentation are stored in folders which should not be removed from the room in which they are stored and must not be photocopied. In practice, this relies on trust. The computerised system does not facilitate saving or printing of the documents and no changes can be made to the master set of documents.

The method used to deploy the system using Microsoft Word 97 and Windows NT 4.0 is described with particular emphasis on document control and security.

Combined treatment of the locally spread malignant tumours of head and neck

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Analysing anticancer activity (in Ukraine) proved that the carcinomas of the head and neck are an important medical, biological and sociological problem in the Ukraine. Sickness and death rates are one of the most pressing oncological problems among young males and have increased in recent years. Also, it should be pointed out that metastases in the neck without primary site increased after the Chernobil disaster.

Since 1990, in Zhitomir Oncologic Dispensary, new inventions and technologies have been widely used in combined treatment of lip, oral cavity, larynx and neck malignant tumours and neck metastatic cancer of unknown origin. The patients' age ranged from 21 to 68 years old. 32 patients were stage II of the disease ($T_2N_0M_0$); 46 of them stage III (34, $T_3N_0M_0$ and 12, $T_3N_1M_0$). 18 stage IV ($T_4N_{2-3}M_0$). 20 ($T_0N_2M_0$). In all of those cases, a diagnosis was confirmed with cytological and histological tests of biopsy tissues.

In all, 120 operations of arterial catheterisation with regional chemotherapy was performed. Regional chemotherapy and external beam radiation therapy Cobalt-6 with optimisation of fields in (dose from 40 to 60 Gy) was performed.

The local chemotherapy was performed using different combinations of chemotherapeutic agents: 5-FU Cisplatin and Bleomycin. After this treatment, some patients with unresectable tumours and metastatic neck nodes had surgical treatment.

20 patients (16.6%) with resumption growth of tumours (distant metastasis, resistance to combined therapy) were treated with Amitosin.

Amitosin, an antitumour agent belonging to a group of alkylating tiophosphamid alkaloids of Chilidonium majus, has cytostatic and immunomodulating activity. It induces differentiation and apoptoses of malignant cells, their death caused control by developing disorders in synthesis of DNA and RNA. In contrast to existing antitumour agents, Amitosin did not decrease leucocytosis.

Long-term treatment results and observation of patients have been analysed 5–10 years. The survival rate of patients surviving for 2 years was $70.3 \pm 6.9\%$, 3 years $68 \pm 5\%$, 5 years $65 \pm 5.2\%$. In the first year, 5 (4.6%) patients died.

Combined treatment with this technique did not increase complications and improved short- and long-term results of treatment.

Research on nurse collection of quality of life data in older women with breast cancer on the PRIME trial

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1. Objective

To describe the research nurse experience of the collection of quality of life data and health/social service resource usage. PRIME evaluates the quality of life and clinical cost effectiveness of adjuvant breast irradiation in women, aged 65 years and over, who have undergone a wide local excision with clear margins, are axillary node-negative and receive adjuvant endocrine therapy.

2. Method

After surgery but prior to randomisation of treatment, baseline demographic information, any comorbidities, prescribed medications and quality of life data are recorded by the research nurse in the patient's home using a structured questionnaire. The same questionnaire is administered at 2 weeks postradiotherapy or equivalent for non-irradiated control patients and repeated at 9 and 15 months after surgery.

3. Results

24 of 41 women offered randomisation have accepted. All 57 questionnaires due to date have been completed on time. Some patients comment that they were more inclined to participate because help was being offered to complete

the questionnaire in their home. Some perceive the visits to be therapeutic and some use the opportunity to seek information about breast cancer, radiotherapy and tamoxifen. Accuracy in recording of comorbidities, prescribed medications, health and social service use are enhanced by personal interview in the home.

4. Conclusions

Visits at home by a research nurse to collect quality of life and health service resource usage information may be a useful method if complex and rich data are to be recorded with accuracy and timeliness.

Pancreatic cancer: treatment patterns in four European countries

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1. Objective

Pancreatic cancer has a 5-year survival rate of 5% and is the sixth leading cause of cancer death in the European Community. Because tumour detection generally occurs at a later stage, conventional chemotherapy, surgery and radiotherapy are not very effective treatments. The purpose of this study was to obtain a representative overview of the treatment patterns for pancreatic cancer in four European countries.

2. Methods

The countries investigated include: Germany ($n=64$), France ($n=50$), Italy ($n=50$), and the UK ($n=53$). Patients at any stage and receiving any type of cancer treatment during the 6-month enrolment were eligible. Patient documentation was used to assess treatment at a given point in time. Epidemiology data were used to evaluate the degree of treatment in the four countries.

3. Results

In Germany arid France, pancreatic cancer was more likely to be treated at late stages (III/IV). In Italy and the UK, therapy was initiated earlier and was less frequently administered during late stages.

	Germany	France	Italy	UK
Treatment episodes	4[a]	1.5	2[a]	1[a]
First-line treatments (most frequent)	Gemcitabine monotherapy	Gemcitabine + cisplatin	Gemcitabine monotherapy	Platinum agent + 5-FU + folinic acid[b]

[a] Approximately 6500 episodes.
[b] Surgery appeared to be the therapy of choice in the UK. Chemotherapy was generally used in neo-adjuvant or adjuvant settings.

4. Conclusions

In the countries examined, pancreatic cancer treatment differed greatly with respect to the percentage of patients treated, the number of treatment episodes, the stages at which therapy was most often administered and the therapy types. No standard of practice in treatment exists. New therapies may encourage a standard to be defined and optimised.