minimal inhibitory concentration (MIC) against these drugs by broth dilution method according to National committee for clinical laboratory standards (NCCLS) recommendations.

Results: Among gram negative bacterial isolates, the overall respective MICs at which 50% and 90% of isolates inhibited (MIC50s and MIC90s) were as follows ciprofloxacin, 4 and 8 μg/mL; ofloxacin, 16 and 64 μg/mL; pefloxacin, 16 and 128 μg/mL; ceftazidime, 16 and 64 μg/mL; Amikacin, 32 and 128 μg/mL; Tobramycin, 4 and 64 μg/mL. The percentage of gram negative bacteria susceptible to ciprofloxacin, ofloxacin and pefloxacin according to NCCLS susceptibility breakpoint was 20, 2 and 3% respectively. Similarly the resistance of gram negative bacterial isolates against ciprofloxacin, pefloxacin and ofloxacin was 80, 77 and 91% respectively. Among cephalosporins, more than 90% of isolates were resistant against ceftazidime and cefuroxime whereas resistance to amikacin and tobramycin was 43% and 50% respectively. In gram positive bacteria 100% resistance were observed in case of pefloxacin, ofloxacin and norfloxacin against methecillin resistant and sensitive *S. aureus* strains whereas only 15% strains were susceptible in methecillin susceptible and 12% in methecillin resistant *S. aureus* strains against ciprofloxacin.

Conclusion: High resistance observed in this study against clinical isolates of cancer patients against potent antimicrobial agents warrants the need of evaluation and monitoring of susceptibility patterns of predominant pathogens against different antimicrobial agents in respective cancer centers. New compounds for effective therapy of infection control against antimicrobial resistant bacterial isolates are required for better patient management and treatment rather than to rely on standardized regimens.

586 POSTER

European benchmarking of oncologic hospital care: a learning process to improve quality of care in cancer centres, an OECI project

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Background: Efficiency is a very important element in the provision of healthcare. It has been identified by the Institute of Medicine as one of the six relevant aspects of quality of care in its 2001 report. In view of the specific character of healthcare workers, the nature of this type of service provision is such that increased productivity is very hard to achieve. The Organisation of European Cancer Institutes has embarked upon an accreditation project in which both quantitative and qualitative analysis of organisational features is taken up. In an attempt to structure the data into a form that feedback can be given on the aspect of efficiency, especially on the issue of financial management and organisational efficiency, the OECI project included a pilot benchmarking study.

Materials and methods: The research project was performed with the University of Twente, Industrial engineering and management Unit. It focused on the aspects of financial management and the functioning of the organisation. The experimental setting was 3 volunteer cancer centres: the NKI/Antoni van Leeuwenhoek hospital, Amsterdam, the Institut Gustave Roussy, Paris, the Karolinska institute, Stockholm. Exhaustive literature study provided a theoretical basis followed by interview with stakeholders for the choice of indicators. A Pilot study of the benchmarking tool and indicators was then performed in the 3 institutes, based on auditing of financial and organisational data.

Results: A model for Financial management benchmarking and the model of the European foundation for quality management (EFQM) were selected and merged to create a new original model adapted to the structure of cancer centres. External and internal environments of the centres were studied and described. Indicators taking into account aspects of integration of research (IGR), equipment, research and care or derived from the Compath study were selected and applied to the 3 centres.

Discussion: This study allowed the design of a new original model, better integrating organisational and financial management (financial data linked to production outcomes and ways of organising).

Strategy and governance, financial and organisational management and treatment modalities can be described and compared in cancer centres using these indicators. Large variations exist among cancer centres making in some areas (like diagnostics) comparisons. Radiotherapy and research are feasible and interesting areas of benchmarking. One aspect of financial management should be selected for further benchmarking. Benchmarking of cancer centres is feasible, should be further developed and repeated.

587 POSTER

Role of biological- and various social- and lifestyle-risk factors in the causation of head and neck cancer in a Hungarian study population

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Hungarians have the lowest life expectancy and the highest rate of cancer mortality in Europe. These phenomena can principally be related to the extensive environmental pollution during the past decades, and the self-destructive behaviour of the population. One of the most alarming trends can be observed in the mortality rate of head and neck squamous cell carcinomas mostly due to long-term tobacco- and alcohol use. Alcohol abuse that equals to 11 litres of absolute alcohol/capita/year on average is one of the highest in Europe. The prevalence of smoking is also high, affecting 46–49% of men in a national representative survey. The increase of death rate from head and neck cancer was doubled by the end of year 2004 compared with the data of 1994 as stated by the WHO. The dramatic increase in the mortality of head and neck cancers in Hungary points to the importance of primary and secondary cancer prevention. Therefore the search for appropriate biomarkers as tools in prevention programmes is essential. Biological and other risk factors were studied in HNSCPs, in a case-control study.

Spontaneous rate of chromosomal aberrations (CAs) as possible predictors of cancer risk were investigated in nearly 400 HNCPs, and age- and smoking-matched controls. CAs in HNCPs differed significantly from healthy non-drinking smokers (2.7% vs 2.1%), and differed more from non-smoking and non-drinking controls (1.8%). Sporadic CAs were clearly associated with the tobacco-smoking and the health status. CA frequency was not influenced by sex, but was slightly affected by the age. The patients' social status, mental health, occupational, behavioural and other risk factors were also compared with the control population, and the most susceptible subgroups were determined.

588 POSTER

Colorectal cancer in Eastern Libya

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Colorectal cancer (CRC) continues to be a major health problem worldwide, it is the second common tumor in Libya in both sex, the adjusted standardized rate is 11.9 and 9.6 per 100.000 men and women respectively (Benghazi Cancer Registry 2003). In spite the lower prevalence of this disease in our area, there are relevant differences in its pattern in comparing with the western countries.

Method: The file of patients with CRC referred to Oncology clinic located in Aljamahiria Hospital Benghazi from 1/1/2000 to 31/12/2004 were revised. Data were analyzed for age, sex, place of residence, type of surgery, stage of the disease at the time of diagnosis and histological types.

Results: CRC accounts for 14% of all cancer patients attending oncology clinic at Aljamahiria hospital (214 cases out of 1540). The median age was 54 years and 38% of patients were below fifty. Stage distribution were, stage I 6%, stage II 19%, stage III 20% and stage IV 24%. pT 3.4 Nx 27%.

Conclusion: CRC is the second common cancer among Libyan. It differs from the disease pattern in European countries by earlier age of onset and more advanced stage at presentation. screening colonscopy should be considered only for people with high risk. Further studies are needed to identify possible etiological factors responsible of this pattern.

589 POSTER

Sample size determination in chemotherapeutics batches quality control

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Background: Among the 30,000 chemotherapeutic batches produced in 2004 in the Department of Clinical Pharmacy (DCP), 75% were qualitatively and quantitatively assessed via an analytical platform. The rate of non-conformity (i.e. concentration outside the specification limits of 10%) has decreased from 5.4% to 1.9% from year 2000 to 2004. We propose a cost- and time-saving acceptance sampling plan to determine appropriate sample sizes to analyse with the same quality level.

Material and methods: We set up and validated a cost- and time-saving acceptance sampling plan to determine appropriate sample sizes to assess a quality level representative of all batches. Risk factors were