PP1. Resource implications of paclitaxel/cisplatinum versus cyclophosphamide/cisplatinum in the treatment of advanced ovarian cancer.

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Background: In advanced ovarian cancer, the substitution of paclitaxel for cyclophosphamide was shown to increase in the GOG trial[1] the median survival. However, the acquisition cost of paclitaxel is still very high and the data reported here are a first attempt at assessing the incremental costs of the gain in survival.
Methods: An intergroup trial (EORTC-NCIC-NOVOCA-SGCSG) was launched in 1994[2], to confirm the efficacy of paclitaxel/cisplatinum (PC) versus cyclophosphamide/cisplatinum (CC) in advanced ovarian cancer. The chemotherapy regimen was given every three weeks in both arms and paclitaxel was given as a three hour infusion at the dose of 175 mg/m² to be increased to 200 mg/m² after the first cycle. The dose of cisplatin was identical in the two arms (75 mg/m²) with cyclophosphamide given at 750 mg/m² in the CC arm. A total of 680 patients have been recruited in the trial, 231 from the EORTC. In the EORTC case report forms, economic variables, such as the exact doses given of the cytotoxic agents, mean number of hospital days per cycle of chemotherapy and the duration of the chemotherapy infusion. In addition, some of the centers completed a special economic form intended to capture some other forms of resource utilisation: ambulatory visits, samples taken for laboratory analysis, additional examinations, transfusions and concomitant medication. Costs are calculated by using the mean resource utilisation from the trial and official charges from the Belgian health care system.
Results: From the EORTC centers, 115 patients were randomised to the CC arm and 116 to the PC arm. The economic form was completed for 58 patients. During the treatment period, the number of hospital days and the duration of infusion did not differ significantly. The differences found for the other types of resource utilisation are also limited, which is explainable by the fact that the patients in both arms were followed in the same manner. However, due to the difference in the acquisition costs of the cytotoxic agents, the mean cost of the PC regimen is found to be 3 times higher than the mean cost for the CC arm.
Discussion: The results reported here have only taken into account some of the direct medical costs of first line treatment. The large difference in costs at this stage is mainly determined by the high acquisition cost of paclitaxel. The next step will be to incorporate the costs of second line treatment in the analysis, since paclitaxel was widely used as second line treatment for patients initially randomised to the CC arm. This will tend to reduce the difference in costs between the two arms. Finally, the difference in average total cost will be related to the difference in survival.

[1] McGuire et al., The New England Journal of Medicine, Vol.334, Jan 4 1996, pp. 1-6
[2] Piccart et al., Proceedings of Asco, Vol. 16, 1997, pp. 352a, no. 1258

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PP2. Costs of inappropriate hospital use in cancer and non-cancer patients in a tertiary university hospital

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Background: As the health care costs continue to rise, developing countries suffer more but can not cope with the issue as efficiently as the developed countries because of lack of adequate information, research and regulations in that area. However the debate is growing on the allocation of resources among primary health care versus higher levels of health care including cancer treatment. Since hospital care accounts for a large proportion of health care costs, utilization review (UR) is employed to increase the cost effectiveness of medical care by improvement in the efficiency and appropriateness of hospital use. This study is designed to estimate the rates and costs of unnecessary hospitalization among cancer and non-cancer patients in a tertiary care university hospital of a developing country. For this purpose a retrospective hospital utilization review was combined with cost evaluation.
Methods: Appropriateness Evaluation Protocol (AEP) was used to accomplish hospital UR. AEP has been shown to be a valid and reliable instrument for identifying non-acute medical admissions and days of care in acute care hospitals both in USA and Europe. The research was conducted in the internal medicine wards of a university hospital in Turkey. The data for UR and cost evaluation were collected by retrospective review of individual patient medical records by an internist. A random sample of all admissions to these medical wards in 1995 was taken. Each day of stay of the randomized admissions was reviewed. AEP was used as originally described; fulfillment of the at least one criteria justified appropriateness and override option was allowed. Override enables the reviewer to use his/her judgment to reverse the criteria dependent decision. For cost estimation, medical charts of patients were thoroughly analyzed on each day of hospitalization for each administered drug, use of laboratory and radiological services, medical and surgical procedures. Their costs are calculated on mid 1995 market prices in USD. Charges are used for price of the hospital bed which includes overheads, hotel services and disposable items in state hospitals in Turkey. Average hourly cost of medical, nursing and administrative staff was calculated from salaries paid by the state. Only health service costs are considered and from the perspective of society.
Results: A random sample of 248 admissions and 3842 patient-days were evaluated. 84 (34%) were oncology patient admissions and 164 (66%) were non-oncology admissions. Inappropriate admission rate was 20% (17/84) in oncology patients whereas 60% (98/164) in non-oncology patients. Inappropriate hospital days were 44% (668/1532) in oncology patients but 71% (1646/2310) in non-oncology group. Average length of stay for appropriately admitted oncology patients were 17 days but 22 days in inappropriately admitted. Non-oncology patients stayed 14 days on average whether appropriately or inappropriately admitted. The estimation of total costs for all the patients in the study were 790.000 USD. The cost for the oncology patient was 6572 USD/patient and for the non-oncology 1448 USD/patient. The total cost during hospitalization for an inappropriately admitted oncology patient was 5442 USD/patient and for the appropriately admitted patient 6859 USD/patient. Whereas for appropriate non-oncology patient 1844 USD/patient, and for inappropriate 1181 USD/patient. Additional costs associated with only hospitalization for all the inappropriate patient-days were estimated to be around 50.000 USD in this study. Since our population is a random sample of all admissions and days of hospital stay, we conclude that it may be used as an unbiased estimate of additional costs of inappropriate admissions in one year for this hospital. This leads to the calculation of approximately 700.000 USD which is the amount spent totally unnecessarily and can pay for the appropriate hospitalization of 106 oncology patients only in this institution.
Discussion: More information and rational planning is necessary in developing countries for higher levels of health care and allocation of severely scarce resources.

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PP3. Cost-analysis of cervical cancer screening in the Flemish Region: The spontaneous versus the organised approach

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Background: The opportunistic screening for cervical cancer in Flanders leads to very important costs as the majority of the screened women in the age group of 25 to 64 years is examined too frequently (generally once a year, sometimes more often), while 20 % of the target population is not protected (never screened or more than 3 years ago). By organising screening according to European guidelines and at the recommended interval (once every 3 years) more women would be covered at lower cost and even more effectively if quality assurance measures are applied at the same time. The costs of the opportunistic approach are compared with those from an organised programme from the viewpoint of the National Health Insurance Company (NHIC).