CPC-040 DESIGN AND ASSESSMENT OF AN E-LEARNING COURSE TO TRAIN CLINICAL PHARMACISTS IN VITAMIN K ANTAGONIST (VKA) CONSULTATIONS

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[1]E Barbier, [2]G Launay-Vacher, [1]MC Chaumais, [1]A Rieutord, [1]R Haddad, [1]C Courtin. *[1]Hôpital Antoine Béclère, Pharmacy, Clamart, France; [2]Européenne de Formation Pour Les Pharmaciens, Engineer, Paris, France*

Background Since 2009, clinical pharmacists have been performing about 150 vitamin K antagonist (VKA) consultations annually in all wards of our hospital. This 24-hour service requires the training of about 15 to 20 pharmacists per year. A very comprehensive but time-consuming training course had been set up.
Purpose To design and implement an E-learning course to train clinical pharmacists for VKA consultations.
Materials and Methods A database of 70 questions (Qs) (35 Level 1 Qs for beginners paired to 35 Level 2 Qs for advanced learners). Each set was divided into 5 themes (biology, side effects, drug interactions, hospital practise and medicines). The training involves six steps (from S1 to S6)

- An assessment of knowledge before training (S1, 10 quizzes level 1)
- Theoretical training using a slideshow (S2)
- 4 role-plays involving a patient and a pharmacist (S3)
- A reassessment of knowledge (S4, 10 quizzes level 2)
- A practical evaluation of running a VKA consultation at the bedside is performed by the pharmacy resident (S5). The score required to complete this step is ≥8 out of 9.
- A satisfaction questionnaire (S6)

The validation method was performed with 10 pre-registration pharmacy students (PRPs).

E learning was developed according to SCORM standards.
Results The individual progression of PRPs was significant (increase of 2.1 points/20, significant $p < 0.025$). A high level of satisfaction and autonomy was expressed when training was completed.

The shift towards e-learning for steps S1 to S4 was much appreciated, particularly distance learning, free access to slideshow, learning flexibility, flash animation for role play. Performances observed for trained consultants at the bedside during S5 were very similar to those obtained prior to E-learning.
Conclusions Anticoagulant monitoring and related patient education is a major issue. Training consultant pharmacists is particularly critical. We demonstrated that E-learning can save much time while providing efficient, customised training to healthcare professionals. Our course will be soon extended to two teaching hospitals belonging to the same group.

In 2013, details of new oral anticoagulants will be added to the course.

No conflict of interest.

CPC-041 DIRECT AVOIDANCE OF MEDICINES COSTS BY PHARMACEUTICAL ANALYSIS OF HOSPITAL PRESCRIPTIONS

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[1]T Gorce, N Chu, V Duhalde, M Vie, P Cestac, B Bellon. *CHU Toulouse, Pharmacy, Toulouse, France*

Background Computerized Physician Order Entry has been set up in two digestive surgery wards in our University hospital since 2012. Clinical pharmacists analyse hospital prescriptions via this software, in order to promote good use of drugs.
Purpose To estimate avoided medicines costs, in relation to pharmacist interventions, from April to June 2012 in two surgical wards (41 inpatient beds).
Materials and Methods We focused on four types of pharmaceutical recommendations (1-to discontinue a medicine, 2-to start medicines for an untreated condition, 3-to modify a dose regimen, 4-to substitute one medicine for another). Data extracted were: daily dose, price per unit (for drug substitutions we calculated the difference between the prices of the drugs) and average length of stay. We hypothesised that our interventions had a cost impact for half of the inpatient's stay. Cost impact was calculated as follows: (Added or avoided daily dose) X (price per unit) X (half of the average length of stay).
Results 1706 prescriptions were analysed and 340 pharmacist recommendations were accepted by physicians (20%). 238 of these recommendations were among the four types listed above. 155 interventions had an impact on cost: 83% led to a cost reduction (total reduction of Euros 1949) and 17% led to an increased cost (total Euros 571). The 1378 Euros saved represent an economy of 3.6% on the total cost of medicines for these two wards between April and June 2012. Extrapolated to the entire hospital, this saving could add up to Euro 2.5 million each year.
Conclusions Medicines costs can be reduced by pharmaceutical interventions. The financial evaluation of Clinical Pharmacy practise is necessary and further studies are needed to calculate avoidable indirect costs.

No conflict of interest.

CPC-042 DRUG-RELATED PROBLEMS IN A CARDIOLOGY DEPARTMENT – IDENTIFYING TRENDS

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T Truelshøj, MK Hansen. *Aarhus University Hospital Skejby, Hospital Pharmacy, Aarhus N, Denmark*

Background Since the spring of 2010, periodic medicines reviews have been performed by a clinical pharmacist in four cardiology wards at Aarhus University Hospital, Skejby. Any drug-related problems (DRPs) identified have been detected and classified using the Danish DRP database. In the database, the DRPs identified are categorised and grouped according to ATC code and type of drug-related problem; interaction, adverse effect, dosage etc. Subsequent extraction of various reports can provide useful information about trends in DRPs.
Purpose To analyse the DRPs identified by the pharmacist on the cardiology wards at Aarhus University Hospital, Skejby, over a two-year period. Secondly, the objective is to demonstrate that the Danish DRP database is a useful tool in analysing data.
Materials and Methods Over a two-year period, DRPs identified by the clinical pharmacist were recorded in the DRP database. Data have been analysed using the reports in the DRP database. 846 medicines reviews were included in the analysis.
Results 846 medicines reviews were conducted and a total of 563 DRPs were identified. The most frequent DRPs were associated with dosage (24%). DRPs classified in the categories time/schedule, interactions and supplement to treatment were also very common. Drugs from ATC code C (26%), A (17%) and N (19%) were most often involved in a DRP.
Conclusions The examination of data from medicines reviews of 846 patients has identified trends in DRPs on the cardiology wards. The Danish DRP database proved to be a useful tool in the analysis.

No conflict of interest.

CPC-043 EFFECTIVENESS AND CHANGE OF THE PROTOCOL FOR ANTIRETROVIRAL TREATMENT FOLLOWING EXPOSURE TO HIV

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M García Queiruga, C Vilaboa Pedrosa, L Martínez López, M Zas García, L Margusino Framiñán, I Martín Herranz. *Complejo Hospitalario Universitario A Coruña, Pharmacy, A Coruña, Spain*

Background The average risk of infection after occupational exposure to HIV is 0.3% (0.2–0.5% percutaneous exposure, 0.01–0.5% contact with mucous or non-intact skin) and after sexual exposure 0.01–3%, depending on sexual practise.

An action protocol has been in place at our centre since 2010, based on international recommendations for exposure to HIV that include:

1. Start treatment within 72 hours post-exposure.
2. 1st choice guideline: Tenofovir/Emtricitabine+Lopinavir/Ritonavir regimen or the source treatment if viral load is controlled; 2nd choice Tenofovir/Emtricitabine or Lamivudine/Zidovudine+protease inhibitor(PI), boosted with Ritonavir.
3. Length of treatment: 30 days.
4. Serological analysis at different points until the 6th month.

Before 2010, the hospital followed the international recommendations, with 1st choice Tenofovir/Emtricitabine or Lamivudine/Zidovudine+PI boosted with Ritonavir.

Purpose To evaluate the effectiveness and change to the protocol currently in force since 2010 and that of the previous international recommendations, following exposure to HIV.

Materials and Methods A retrospective observational study. Sample: 100% of patients with antiretroviral treatment following exposure. Period: January 2000-June 2012. Data Sources: Pharmacotherapy records (Silicon computer programme) and electronic medical records (IANUS application). Variable effectiveness: absence of seroconversion in exposed patient following post-exposure prophylactic treatment (PEPT). Analysis on: day-0, month-1, month-3 and month-6.

Results 33 patients. Average age 37.3(23–65), 13 males (39.4%). Patients treated with first choice: 94%, other therapeutic options: 6.0%. 90.9% of patients received treatment for 30 days. 38.2% of patients underwent correct serological monitoring until 6 months, 52.9% until 3 months. 96.9% started treatment within 72 hours of exposure. All baseline serologies were negative and there were no cases of seroconversion. Average cost/patient €747.

Conclusions PEPT was able to achieve the therapeutic goal in all study patients. The treatment chosen and the time of beginning after exposure were correct. The follow-up until 6 months was not carried out correctly in a significant percentage of patients. These facts and the high costs, require close pharmacotherapy monitoring of these patients.

No conflict of interest.

CPC-044 EFFECTIVINESS AND SAFETY OF BEVACIZUMAB IN METASTATIC BREAST CANCER IN CLINICAL PRACTISE

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[1]R Veiga, [1]G Durán, [1]MJ Lamas, [2]JF Cueva, [1]B Bernárdez, [2]T Curiel, [1]E Espino, [1]ME Concheiro. *[1]Complejo Hospitalario Universitario de Santiago de Compostela, Pharmacy, Santiago de Compostela, Spain; [2]Complejo Hospitalario Universitario de Santiago de Compostela, Oncology, Santiago de Compostela, Spain*

Background New data released by clinical trials AVADO and RIBBON have questioned the use of Avastin in metastatic breast cancer (MBC). EMA keeps the indication of first line in combination with paclitaxel or capecitabine when taxanes or anthracyclines are not indicated.

Purpose This study explores our single-centre experience to cheque the effectiveness and safety of bevacizumab in MBC in clinical practise.

Materials and Methods Retrospective study of 41 MBC patients treated with bevacizumab and chemotherapy in a Spanish teaching hospital from 07/2008 to 06/2012. Toxic effects were graded according to the National Cancer Institute Common Toxicity Criteria (NCI-CTC). Disease status was assessed according to the Response Evaluation Criteria in Solid Tumors (RECIST). Clinical evaluation included clinical response, time to progression (TTP), and toxicity. Median survival times were estimated from Kaplan–Meier curves. Data analysis was performed using SPSS-17.0.

Results Median age was 59 yrs (34–75). 87.8% of patients had ECOG PS 0–1. Bevacizumab was administered with docetaxel (46.3%), paclitaxel (29.3%), taxane-carboplatin (17.1%) or capecitabine (7.3%). It was used as first line in 19 cases (46.3%), second line in 5 and following lines in 17 cases (41.5%). Sites of metastases were: 26 visceral and 4 skeletal. Overall Response was 46.4% (4.9% Complete and 41.5% Partial). 17.1% had progressive disease. Median TTP: 7.8 months (6.5–9.2;95%CI). Median TTP of first-line paclitaxel-bevacizumab was 11 vs. 7.7 months for the rest of the combinations (P = 0.501). Safety outcomes were similar among treatments. G1–2 toxicities: bleeding (32%), anaemia (21.8%), mucositis (21.9%), diarrhoea (9.7%), hypertension (20%). 1 patient suffered grade 4 hypertension resulting in discontinuation and 2 patients suffered deep vein thromboembolisms. Other non-specific toxicities: neutropenia (31.2% – G3–4 = 7.3%), neuropathy (19.5%), alopecia (24.4%), nausea/vomiting (9.8%).

Conclusions TTP was longer with paclitaxel than with other antineoplastic agents but the difference was not statistically significant. Most of patients in the paclitaxel group were censored as they hadn't reached progression yet. Toxicity profile was as expected.

No conflict of interest.

CPC-045 EFFICACY AND SAFETY OF BOCEPREVIR AND TELAPREVIR AT WEEK 12 OF TREATMENT

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M Gomez Perez, M Bonilla Porras, B Rodriguez Vargas, FJ Becares Martinez, E Tortajada Esteban, G Toledano Mayoral. *Hospital Universitario Fundacion Jimenez Diaz, Hospital Pharmacy, Madrid, Spain*

Background Boceprevir and telaprevir are two new drugs approved by the European Medicines Agency for the treatment of hepatitis C genotype 1. They are used in combination with ribavirin and peginterferon to increase the response to treatment.

Purpose To analyse the evolution of the viral load and the adverse effects of boceprevir and telaprevir, at week 12 of treatment.

Materials and Methods We undertook a prospective observational study from November 2011 to October 2012 of patients who started treatment with boceprevir and telaprevir. Patients were monitored for 12 weeks after initiation of triple therapy. We also analysed the incidence of adverse effects during treatment. The data collected were: age, sex, grade of fibrosis, type of patient, baseline viral load, and viral load at weeks 4, 8 and 12. The data were consulted in the medical records of patients through the IMDHv.50 programme.

Results A total of 31 patients were followed up, eight treated with boceprevir and 23 with telaprevir. The median of age was 60 years. Regarding the type of patient, 10 were treatment naïve, 5 were relapsers, 7 non-responders, 4 presented side effects in previous treatment and 5 were partial non-responders. The median viral load was 2,682,000 IU/ml. At week 12, undetectable viral load was found in 26 (83.8%) patients (6 in the boceprevir group and 20 in the telaprevir group). Five patients (16.1%) had to discontinue treatment, four (12.9%) had >1000 IU/ml at week 12 and one (3%) due to pancreatitis. Adverse events observed during treatment are shown in the table.

Conclusions The data show an early decrease in the viral load of patients treated with triple therapy, becoming undetectable by week 12 in most cases. The side effects differed from those described in clinical trials, so more studies and post-marketing pharmacovigilance are needed.