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ABSTRACT BOOK

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eahp european association of hospital pharmacists

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POSTER AWARD NOMINEES

Presentations on Wednesday, 25 March, 14:00 to 15:30, Hall D

Time	Poster number	Poster nominee oral presentations	Author(s)
14:00	PKP-001	Current vancomycin dosing recommendations for paediatric patients: a pharmacokinetic evaluation	N Rasouli
14:15	PP-002	Compatibility and stability of hyoscine N-butyl bromide and furosemide admixtures for use in palliative care	C Bosch-Ojeda
14:30	PS-042	Parenteral nutrition in premature infants: risk analysis after redesigning a production process	C Salazar
14:45	PS-046	Evaluation of a systematic tool to reduce inappropriate prescribing (STRIP) in adults with intellectual disability: a pilot study	R Zaal
15:00	CP-061	Long-term cost-effectiveness analysis of infliximab, etanercept and adalimumab in rheumatoid arthritis patients in real-life clinical practice	I Viguera-Guerra
15:15	DI-040	Long-term effect of an individualised medication plan with drug administration recommendations on the patients' drug knowledge	AFJ Send

Presentations on Thursday, 26 March, 09:00 to 10:30, Hall D

Time	Poster number	Poster nominee oral presentations	Author(s)
09:00	CP-136	Inappropriate prescribing in older patients: assessment of a screening tool based on the stopp and start criteria	A-L Sennesael
09:15	CP-143	Involvement of microbial flora in aetiology of surgical site infections	D Calina
09:30	PP-028	Long-term stability of diluted solutions of the monoclonal antibody infliximab	N Navas
09:45	PS-116	Exposure to anticholinergic and sedative drugs: relationship between drug burden index, anticholinergic risk scales and falls in elderly hospitalised patients	E Jean-Bart

GAZYVARO™ (obinutuzumab, GA101) The only antibody with proven superiority vs. MabThera® (rituximab) in first-line CLL[1]

Demonstrated by a **head-to-head comparison of GAZYVARO and MabThera**, both in combination with chlorambucil, in adult patients with previously untreated chronic lymphocytic leukaemia (CLL) and with comorbidities making them unsuitable for full-dose fludarabine-based therapy, as per the GAZYVARO licence[1,2]

NEW
treatment option
for first-line CLL

ENGINEERED FOR **SUPERIORITY**
EFFECTIVE IN THE **REAL WORLD**[1]

- GAZYVARO is the **first glycoengineered type II anti-CD20** monoclonal antibody for CLL,[3,4] **proven to be superior to MabThera**[1]
- In a typical CLL patient population (median age 73 with at least 1 comorbidity), GAZYVARO+chlorambucil:
  - Added almost **1 year median progression-free survival** vs. MabThera+chlorambucil (26.7 months vs. 15.2 months; p<0.001)[1] – CLL11 primary endpoint
  - Is the first antibody to demonstrate **improved overall survival** vs. chlorambucil monotherapy in CLL, showing a 59% reduction in the risk of death (p=0.002); 80% of chlorambucil monotherapy patients vs. 91% of GAZYVARO+chlorambucil patients alive at median 23.0 month follow-up (data not yet mature)[1]
  - Offers a manageable tolerability profile[1]

References:
1. Goede V *et al. N Engl J Med* 2014; **370**:1101–1110 and Supplementary Appendices
2. Gazyvaro Summary of Product Characteristics available at www.medicines.org.uk
3. Ferrara C *et al. Biotechnol Bioeng* 2006; **93**:851–861
4. Mössner E *et al. Blood* 2010; **115**:4393–4402

RXUKOBIN00059 | Date of preparation: August 2014 | Produced by Roche Products Limited

Prescribing information can be found overleaf

GAZYVARO™
obinutuzumab

PRESCRIBING INFORMATION

Gazyvaro™▼ (obinutuzumab) 1000 mg concentrate for solution for infusion

Refer to Gazyvaro SPC for full prescribing information. **Indication:** Gazyvaro in combination with chlorambucil is indicated for the treatment of adult patients with previously untreated chronic lymphocytic leukaemia (CLL) and with co-morbidities making them unsuitable for full-dose fludarabine-based therapy. **Dosage and Administration:** Administer as an IV infusion through a dedicated line, with full resuscitation facilities immediately available and under supervision of an experienced physician. Do not administer as IV push or bolus. Administer premedication before each infusion - see SPC for further details. Consider withholding antihypertensives for 12 hours prior to and throughout each infusion and for the first hour after administration. Prophylaxis for Tumour Lysis Syndrome (TLS): adequate hydration and uricostatics recommended where lymphocyte count >25 x 10^9/L. *Duration of treatment*: 6 treatment cycles each of 28 days duration. Dose: Cycle 1: 1000 mg split over Day 1 (100mg) and Day 2 (or Day 1 continued) (900mg), 1000mg on Day 8 and 1000mg on Day 15. Cycles 2 - 6: 1000 mg on day 1. *Administration*: Monitor closely for infusion related reactions (IRRs) *Cycle 1: Day 1(100 mg)*: Administer at 25 mg/hr over 4 hours. Do not increase the infusion rate. *Day 2 (or Day 1 continued) (900 mg)*: Administer at 50 mg/hr. Infusion rate can be escalated in increments of 50 mg/hr every 30 minutes to a maximum of 400 mg/hr. *Cycle 1: Day 8 and Day 15 and Cycles 2 - 6*: Administer at 100 mg/hr, with escalation by 100 mg/hr increments every 30 minutes to a maximum of 400 mg/hr. Management of IRRs may require temporary interruption, reduction in rate of infusion, or treatment discontinuations – see SPC for further details. . **Contra-indications:** Hypersensitivity to any component of this product. **Precautions:** Record the trade name in the patient record to improve traceability of biological medicinal products. *IRRs*: Most frequently observed during infusion of first 1000mg with most patients having no IRRs during subsequent administrations. Mitigation measures to reduce IRRs should be followed, see SPC. Patients with a high tumour burden (peripheral lymphocyte count in CLL > 25 x 10^9/L) may be at increased risk of severe IRRs. Patients with renal impairment (CrCl < 50 mL/min) and with both Cumulative Illness Rating Scale (CIRS) > 6 and CrCl < 70 mL/min are more at risk of IRRs, including severe IRRs. Cases of cytokine release syndrome have been reported with Gazyvaro. Do not administer further infusions if patient experiences acute life-threatening respiratory symptoms, a Grade 4 (life threatening) IRR or, a second occurrence of a Grade 3 (prolonged/ recurrent) IRR (after resuming the first infusion or during a subsequent infusion). Carefully monitor patients who have pre-existing cardiac or pulmonary conditions throughout the infusion and post-infusion period. For patients at acute risk of hypertensive crisis evaluate the benefit and risks of withholding anti-hypertensive medicine. *Hypersensitivity reactions including anaphylaxis*: Anaphylaxis has been reported. Hypersensitivity may be difficult to distinguish from IRRs. If a hypersensitivity reaction is suspected during infusion, stop the infusion and permanently discontinue Gazyvaro. Patients with known IgE mediated hypersensitivity to obinutuzumab must not be treated. *TLS*: TLS has been reported – see Dosage & Administration for suggested prophylaxis. *Neutropenia*: Severe and life-threatening neutropenia including febrile neutropenia has been reported and more frequently in patients with renal impairment (CrCl <50 mL/min). Patients with neutropenia should be closely monitored with regular laboratory tests until resolution. Treat in accordance with local guidelines and consider administration of granulocyte-colony stimulating factor. Consider dose delays with severe or life threatening neutropenia. For severe and long lasting (>1 week) neutropenia, antimicrobial prophylaxis strongly recommended throughout the treatment period until resolution to Grade 1 or 2. Antiviral and antifungal prophylaxis should be considered. Cases of late onset neutropenia (occurring 28 days after treatment end) and prolonged neutropenia (lasting >28 days after treatment end) have also been reported. *Thrombocytopenia*: Severe and life-threatening thrombocytopenia including acute thrombocytopenia (occurring within 24 hours after infusion) has been observed during treatment and more frequently in patients with renal impairment (CrCl <50 mL/min). Fatal haemorrhagic events have also been reported in Cycle 1 of treatment. A clear relationship between thrombocytopenia and haemorrhagic events has not been established. Monitor patients closely during the first cycle; perform regular laboratory tests until event resolution, consider dose delays in cases of severe or life-threatening thrombocytopenia. Use of all concomitant therapies which could worsen thrombocytopenia events should be taken into consideration particularly during the first cycle. *Worsening of pre-existing cardiac conditions*: May occur as part of an IRR and can be fatal. Patients with a history of cardiac disease should be monitored closely and hydrated with caution to prevent fluid overload. *Infections*: Do not administer Gazyvaro in the presence of an active infection and exercise caution when considering use in patients with a history of recurring or chronic infections. In patients with both CIRS>6 and CrCl<70 mL/min, an increased incidence and severity of infections was observed. *Hepatitis B reactivation*: HBV reactivation, some cases resulting in fulminant hepatitis, hepatic failure and death, can occur in patients treated with anti-CD20 antibodies including Gazyvaro. Perform hepatitis B virus screening (including HBsAg and HBcAb-status) before initiating treatment. Patients with active hepatitis B disease should not be treated and those with positive hepatitis B serology should consult liver disease experts before start of treatment and be monitored and managed to prevent hepatitis reactivation. *Progressive Multifocal Leukoencephalopathy (PML)*: PML has been reported and PML diagnosis should be considered in any patient presenting with new-onset or changes to pre-existing neurologic manifestations. Evaluation of PML includes consultation with a neurologist, brain MRI and lumbar puncture. Treatment should be withheld during investigation of potential PML; permanently discontinued if PML confirmed and refer patient to a neurologist. *Immunisation*: The safety of immunisation with live or attenuated viral vaccines following Gazyvaro therapy has not been studied and vaccination with live virus vaccines is not recommended during treatment and until B cell recovery. **Fertility, pregnancy and lactation:** Women of childbearing potential have to use effective contraception during and for 18 months after treatment. Gazyvaro should not be administered to pregnant women unless the possible benefit outweighs the potential risk. **Undesirable effects:** For full listings please refer to the Gazyvaro SPC. *Very common/common*: IRRs occurred in the majority of patients during the first cycle (65% with first 1000 mg infusion decreasing to less than 3% with subsequent infusions). Associated symptoms were nausea, chills, hypotension, pyrexia, vomiting, dyspnoea, flushing, hypertension, headache, tachycardia, and diarrhoea. Respiratory and cardiac symptoms such as bronchospasm, larynx and throat irritation, wheezing, laryngeal oedema and atrial fibrillation also reported. Neutropenia including prolonged and late onset neutropenia, thrombocytopenia, anaemia, leukopenia. Nasopharyngitis, urinary tract infection, oral herpes, rhinitis, pharyngitis. Squamous cell carcinoma of skin. TLS, hyperuricaemia. Hypertension. Cough. Diarrhoea, constipation. Alopecia. Arthralgia, back pain, musculoskeletal chest pain. Pyrexia. Weight increased. *Serious reactions*: IRRs. TLS. Neutropenia, thrombocytopenia. Cardiac events. PML (very rarely). Bacterial, fungal and new or re-activated viral infections. Worsening of pre-existing cardiac conditions; arrhythmias, angina pectoris, acute coronary syndrome, myocardial infarction and heart failure (these events may occur as part of an IRR and can be fatal). *Elderly*: Patients aged ≥75 years experienced more serious adverse events leading to death than patients < 75 years. Consult the SPC in relation to other adverse reactions **Legal Category:** POM **Presentation and Basic NHS Costs**: 1000mg of obinutuzumab in 40 mL (25 mg/mL) pack of 1 vial: £3,312.00. **Marketing Authorisation Number**: EU/1/14/937/001 **Marketing Authorisation Holder**: Roche Registration Limited, 6 Falcon Way, Welwyn Garden City, AL7 1TW. GAZYVARO is a registered trade mark.

RXUKMEDI00186 **Date of Preparation** July 2014

▼This medicinal product is subject to additional monitoring. This will allow quick identification of new safety information. Healthcare professionals are asked to report any suspected adverse reactions.

Adverse events should be reported. Reporting forms and information can be found at www.mhra.gov.uk/yellowcard. Adverse events should also be reported to Roche Products Ltd. Please contact Roche Drug Safety Centre by emailing welwyn.uk_dsc@roche.com or calling +44 (0)1707 367554.

As Gazyvaro is a biological medicine, healthcare professionals should report adverse reactions by brand name and batch number.

PRESCRIBING INFORMATION: MABTHERA® (rituximab) 100mg & 500mg concentrate for solution for infusion

Please refer to MabThera concentrate for solution for infusion SmPC for full prescribing information

Indications: Treatment of follicular lymphoma (FL) (i) with chemotherapy in previously untreated patients with stage III-IV FL, (ii) as maintenance therapy in patients responding to induction therapy (iii) as monotherapy in patients with stage III-IV FL who are chemoresistant or in second or subsequent relapse after chemotherapy. Treatment of previously untreated and relapsed/ refractory chronic lymphocytic leukaemia in combination with chemotherapy. Treatment of CD20-positive diffuse large B-cell non-Hodgkin's lymphoma (DLBCL) in combination with CHOP. **Dosage and Administration:** Administer prepared MabThera as an IV infusion through a dedicated line, with full resuscitation facilities immediately available and under supervision of an experienced healthcare professional. Do not administer as IV push or bolus. Administer antipyretic and antihistaminic premedication before each infusion. Consider glucocorticoid premedication if chemotherapy does not contain glucocorticoid. Monitor closely for onset of cytokine release syndrome (CRS). Severe reactions e.g. severe dyspnoea, bronchospasm or hypoxia require immediate interruption of infusion. Evaluate FL patients for tumour lysis syndrome (TLS). *Follicular lymphoma:* (i) In combination with chemotherapy for previously untreated or relapsed/refractory FL, 375mg/m^2 on day 1 of each chemotherapy cycle for up to 8 cycles, (ii) As maintenance in patients responding to induction therapy for previously untreated FL: 375mg/m^2 once every 2 months (starting 2 months after the last dose of induction therapy) until disease progression or for maximum 2 years. In relapsed/refractory patients responding to induction therapy: 375mg/m^2 once every 3 months (starting 3 months after the last dose of induction therapy) until disease progression or for maximum 2 years. (iii) Induction as a single agent (includes retreatment following relapse), 375mg/m^2 once weekly for four weeks. *Diffuse large B-cell non-Hodgkin's lymphoma:* In combination with CHOP, 375mg/m^2 on day 1 of each chemotherapy cycle for 8 cycles. Administer after *iv* infusion of the glucocorticoid if applicable. *Chronic lymphocytic leukaemia:* Prophylactic hydration and uricostatics recommended 48 hours prior to MabThera. Where lymphocyte counts >25x10^9/L prednisone/prednisolone 100mg IV shortly before MabThera is recommended. In combination with chemotherapy, 375mg/m^2 on day 0 of first treatment cycle then 500mg/m^2 on day 1 of subsequent cycles, for 6 cycles in total. *First Infusion:* Recommended initial rate is 50mg/hr after 30 minutes this can be escalated in 50mg/h increments every 30 minutes to a maximum of 400mg/h. *Subsequent Infusions:* Initial rate 100mg/hr, and increased by 100mg/h increments at 30 minute intervals to a maximum of 400mg/h. *Dose adjustments:* No dose reductions of MabThera recommended. *Paediatric use:* Safety and efficacy of MabThera in children not established. **Contra-indications:** Hypersensitivity to any component of MabThera or to murine proteins. Active, severe infections. Severely immunocompromised patients. **Precautions:** Record tradename in the patient record to improve traceability of biological medicinal products. MabThera is associated with infusion related reactions (IRRs) including CRS, TLS, anaphylactic and hypersensitivity reactions. Severe IRRs with fatal outcome have been reported, characterised by pulmonary events and in some cases included rapid TLS and features of TLS in addition to fever, chills, rigors, hypotension, urticaria, angioedema & other symptoms. Use extreme caution and closely monitor first infusion when treating patients with >25x10^9/L circulating malignant cells or high tumour burden (higher risk of severe CRS). Consider reduced rate or split dose for any infusion where lymphocyte counts >25x10^9/L. See SmPC for further details on severe IRRs. Infusion related reactions of all kinds have been observed in 77% of patients treated with MabThera. Anaphylaxis and other hypersensitivity reactions have been reported following IV administration of proteins to patients. Additional reactions reported in some cases were myocardial infarction, atrial fibrillation, pulmonary oedema and acute reversible thrombocytopenia. Consider withholding anti-hypertensive medications prior to infusion. Caution in patients with a history of pulmonary insufficiency or pulmonary tumour infiltration. Closely monitor patients with history of cardiac disease and/or cardiotoxic chemotherapy. Perform regular full blood counts during MabThera therapy. Caution in patients with a history of, or susceptible to, chronic/recurring infection. Cases of fatal hepatitis B reactivation have been reported. Screen all patients for Hepatitis B virus (HBV) before initiating MabThera treatment; do not treat patients with active hepatitis B disease. Patients with positive HBV serology should consult a liver specialist and if treated be monitored and managed to prevent HBV reactivation. Monitor for progressive multifocal leukoencephalopathy (PML) and permanently discontinue MabThera if confirmed. Fatal cases have been reported – refer to SmPC for more information. Severe skin reactions such as Toxic Epidermal Necrolysis (TEN) and Stevens-Johnson Syndrome (SJS) – permanently discontinue treatment. For safety or efficacy of immunisation – consult SmPC. **Pregnancy and Lactation:** Use effective contraception during and for 12 months following MabThera treatment. **Undesirable effects:** *Common adverse reactions:* Infusion related reactions, reported in more than 50% of patients in clinical trials, predominantly during first infusion, usually in first 2 hours; mainly fever, chills and rigors; other symptoms include flushing, angioedema, nausea, urticaria/rash, fatigue, headache, throat irritation, rhinitis, vomiting and tumour pain; accompanied by hypotension and bronchospasm in up to 12% of cases. Incidence of infusion related symptoms decreases substantially with subsequent infusions. Infections: bacterial, viral & fungal infections reported. Haematological adverse events: occurred in a minority of patients and usually mild and reversible. Severe (grade 3 and 4) events (higher incidence in CLL patients >65yrs): thrombocytopenia, neutropenia, granulocytopenia, severe anaemia. Prolonged or late onset neutropenia in up to 25% CLL patients with FC chemotherapy. Cardiovascular events: exacerbation of pre-existing cardiac conditions such as angina pectoris or congestive heart failure. Hypotension, hypertension, arrhythmia. *Serious adverse reactions*: Serious infection including hepatitis B reactivation (common). Late neutropenia, pancytopenia, aplastic anaemia. Severe events in patients with prior cardiac condition or cardiotoxic chemotherapy, heart failure, myocardial infarction, cardiac arrythmias. Hearing loss. Severe vision loss. Multi-organ failure. Infusion related reactions, anaphylaxis, tumour lysis syndrome, cytokine release syndrome, serum sickness. Cranial neuropathy, peripheral neuropathy, facial nerve palsy, loss of other senses and progressive multifocal leukoencephalopathy. Renal failure. Bronchospasm, respiratory failure, pulmonary infiltrates, interstitial lung disease. Gastro-intestinal perforation. Severe bullous skin reactions; Toxic Epidermal Necrolysis, Stevens-Johnson Syndrome. Vasculitis. Cases of posterior reversible encephalopathy syndrome (PRES) / reversible posterior leukoencephalopathy syndrome (RPLS) reported – see SmPC. *Prescribers should consult the SmPC in relation to other side-effects.* **Legal Category:** POM. **Presentations and Basic NHS Costs:** 100mg of rituximab in 10mL (10mg/mL) pack of 2 vials: £349.25. 500mg of rituximab in 50mL (10mg/mL) pack of 1 vial: £873.15. **Marketing Authorisation Numbers:** EU/1/98/067/001 (100mg). EU/1/98/067/002 (500mg). **Marketing Authorisation Holder:** Roche Registration Limited, 6 Falcon Way, Welwyn Garden City, AL7 1TW. MABTHERA is a registered trade mark.

RXUKMEDI00194 **Date of Preparation:** July 2014

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Adverse events should be reported. Reporting forms and information can be found at www.mhra.gov.uk/yellowcard. Adverse events should also be reported to Roche Products Ltd. Please contact Roche Drug Safety Centre by emailing welwyn.uk_dsc@roche.com or calling +44(0)1707 367554.

As MabThera is a biological medicine, healthcare professionals should report adverse reactions by brand name and batch number.

GAZYVARO™▼

obinutuzumab

Clinical pharmacy

CP-001 IMPACT OF A PHARMACEUTICAL CARE PROGRAMME FOCUSED ON SOLID ORGAN TRANSPLANT PATIENTS

M Montero-Hernández*, M Fernández-Megía, I Font-Noguera, M Cuellar-Monreal, C Planells-Herrero, C Sáez-Pons, P García-Gómez, J Poveda-Andrés. *Hospital Universitario Y Politécnico La Fe, Pharmacy, Valencia, Spain*

10.1136/ejhpharm-2015-000639.1

Background Patient and organ survival is dependent on the use of immunosuppressant drugs. The doses are reduced several months after the surgery to low maintenance phase levels. Treatments are complex and require drug treatment monitoring.
Purpose To analyse the impact of a Pharmaceutical Care Programme focused on solid organ transplant patients for the prevention and correction of drug-related problems (DRPs). DRPs include medication errors in the process of prescribing, dispensing or administering a drug.
Material and methods Study design: retrospective observational study. Sample: 222 solid organ transplant patients: 94 kidney (9 with pancreas), 31 lung, 86 liver and 19 heart. The IASER method (identify, act, monitor, evaluate and results) was used as a tool to analyse and categorise the DRPs. Variables: number and type of DRP, drugs, recommended actions, acceptance and cost savings (acquisition drug cost, preparation and administration time cost, GRD cost, etc.
Results 125 DRPs were detected in 88 patients (0.5 problem/solid organ transplant patient). 60.8% of the patients were males and the average of age was 53 years (7–86). Identified by validation (71.2%) and analytical parameters (24.0%). 41.6% of DRPs reached the patient. The main problems were over dosage (24%) in kidney transplant and (8%) in liver transplant patients, the need for additional treatment (12%) in lung transplant and (1.6%) in heart transplant patients. The DRPs were categorised into safety (45.6%), indication (33.6%), effectiveness (18.4%) and adherence (2.4%). The therapeutic groups involved were mainly antibiotics (50%) and immunosuppressants (26%). 81.6% of the actions were accepted by physicians. 72% were relevant to improving patient care. The financial impact was €69,826/year saved (€38,123/year in kidney transplant, €19,106/year in lung transplant, €9,658/year in liver transplant and €2,939/year in heart transplant patients).
Conclusion Management of complex treatments requires the involvement of all health professionals. A pharmaceutical care programme based on pharmacotherapeutic monitoring resolved DRPs in solid organ transplant patients. It improved the quality of treatment and saved money.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

CP-002 PHARMACEUTICAL CARE SYSTEM FOR LIVER TRANSPLANT PATIENTS USING ELECTRONIC CONSULTATION

[1]M Fernández-Megía*, [2]R López-Andujar, [1]I Font-Noguera, [1]M Montero-Hernández, [1]I Puchalt-Escribano, [1]J Poveda-Andrés. *[1]Hospital Universitario Y Politécnico La Fe, Pharmacy, Valencia, Spain; [2]Hospital Universitario Y Politécnico La Fe, Hepatobiliary Surgery Unit, Valencia, Spain*

10.1136/ejhpharm-2015-000639.2

Background Information and education for transplant patients can improve their health outcomes. Communication between health professionals through the electronic medical record is used in the management of hospitalised patients.
Purpose To evaluate a pharmaceutical care program in liver transplantation patients through electronic consultation.
Material and methods Setting: tertiary hospital of 1,000 beds. Design: observational prospective study. Population: 90 liver transplant patients during 2013. System: the physician requests the pharmacist consultation via the electronic medical record. The pharmacist delivers the documentation and training to the patient in collaboration with the medical and nursing team. At discharge, the pharmacist gives education about drugs by an informative newsletter and planning schedule. One week after discharge, he telephones the patient to complete a survey on the training level and satisfaction. Variables: patient characteristics, diagnosis, treatment, level of understanding and satisfaction.
Results During the study period, 63 patients met the criteria for inclusion in the system. 100% of the consultations were performed and recorded. (Median; range): 57 years (26–69); 80% male; stay: 14 days (8–60); number of diseases contributing to the patient's condition: 2.5 (1–9); drugs at admission: 5.5 (0–14); drugs at discharge: 10 (5–10). The main reason for transplantation was viral hepatitis: HCV (58%), HBV (14%), alcoholic cirrhosis (30%) and hepatocellular carcinoma associated with previous cases (14%). 31 surveys were obtained with a level of understanding 4.8 out of 5. 90% of patients used the schedule delivered. 58% claimed to know what it was for each drug, 90% were not confused with taking the medicines and 97% did not forget to take their medicines. Finally, 97% said they were satisfied with the information received.
Conclusion The participation of a pharmacist in this system can contribute to a better understanding of the treatments by the transplant patient. Electronic consultation has proved a useful and efficient tool for coordinating activities among professionals involved.

REFERENCESS AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

CP-003 CLINICAL PHARMACIST INTERVENTIONS ON PARENTERAL NUTRITION APPROPRIATENESS IN A TEACHING HOSPITAL

G Meers, K Noerens*, H Collier, P Cortoos. *UZ Brussel, Hospital Pharmacy, Brussels, Belgium*

10.1136/ejhpharm-2015-000639.3

Background Total Parenteral Nutrition (TPN) isn't always prescribed according to international guidelines: nutritional screening is frequently lacking, the prescribed therapy is not always adapted accordingly and subsequent monitoring is often absent. Our objective was to assess the potential benefit of a clinical pharmacist reviewing prescribed TPN.
Purpose Evaluation of the appropriateness of prescribed TPN.
Material and methods Setting: A prospective pre-post intervention study in a tertiary care teaching hospital with a high percentage of cancer and critically ill patients.

Method: Adult hospitalised patients on TPN were included. The presence of a Nutritional Risk Screening-2002 and the calculation of energy requirements, the indication, the therapy appropriateness and the therapy duration were assessed by a

clinical pharmacist. During the intervention period feedback was provided to the physician and dietician in multidisciplinary collaboration. The ESPEN guidelines were taken as golden standard. All data were obtained from the electronic patients files.
Results We assessed 272 hospitalisations, 152 pre-interventional (10/2013–01/2014) and 120 post-interventional (02/2014–04/2014). During the latter period an intervention was needed in 83.7% (176 interventions) of the cases. Prevalence of nutritional screening increased from 25.0% to 61.7% ($p < 0.001$) as did energy requirement calculation (30.9% vs. 67.5%; $p < 0.001$). Therapy appropriateness increased from 58.8% to 75.8% ($p < 0.05$). The median duration (6.0 vs. 7.0 days) of the therapy was not significantly reduced ($p = 0.36$). We avoided the production of at least 81 TPNs on a total of 1172. During the 3 month intervention period an estimated total saving of 20756€ could be obtained.
Conclusion The additional monitoring of the appropriateness of TPN by a clinical pharmacist has a positive influence on therapy quality and healthcare costs.

REFERENCES AND/OR ACKNOWLEDGEMENTS

1 ESPEN guidelines (http://www.espen.org/education/espen-guidelines)
2 Nutrition support team

No conflict of interest.

CP-004 AGE-RELATED MACULAR DEGENERATION: ECONOMIC IMPACT OF IMPLEMENTING TREATMENT GUIDELINES

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Introduction
Background Drugs for age-related neovascular macular degeneration (AMD) reverse the disease process, usually leading to gains in visual acuity. Ranibizumab (Lucentis) was licensed for AMD in the EU in 2007. Bevacizumab (Avastin), has been widely used globally off-label by splitting up doses licensed for cancer.
Purpose To assess the use and cost of intravitreal ranibizumab and bevacizumab, after the implementation of AMD treatment guidelines.
Methods A retrospective analysis of the use of both drugs in our hospital from 2007 to 2013 was conducted. At the end of 2009 AMD treatment guidelines were implemented in our hospital: ranibizumab 0.5 mg only can be prescribed after poor response to three monthly injections of bevacizumab 1.25 mg.
Results A total of 494 doses of ranibizumab were administered to 107 patients. Bevacizumab was administered to 418 patients with a total of 1325 doses.

Prescriptions for each drug were as follows (from 2007 to 2013):

- Ranibizumab: 23, 147, 179, 32, 27, 25, 61.
- Bevacizumab: 0, 56, 63, 204, 259, 340, 403.

In 2010 after the implementation of the protocol, ranibizumab prescriptions decreased 82.1%, from 179 (2009) to 32 (2010). Bevacizumab prescriptions increased 223.8%, from 63 (2009) to 204 (2010).

Ranibizumab injection average cost was €985.69 per injection. Each bevacizumab injection cost €16.40. Ranibizumab costs in the whole seven year period were €486,929. Bevacizumab costs in the same period were €21,730. Global saving costs for implementing this protocol in our hospital were €1,151,128.
Conclusions Our study showed that considerable savings may be obtained by promoting the most cost-effectiveness alternative as first line treatment for AMD. The role of hospital pharmacists was crucial, involving the process of splitting up bevacizumab doses.

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No conflict of interest.

CP-005 ASSESSMENT OF DRUG-DRUG INTERACTIONS INVOLVING PSYCHIATRIC AGENTS IN HOSPITALISED PATIENTS

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Background The use of psychiatric agents in hospitals increases the complexity of pharmacotherapy and the risk of drug–drug interactions.
Purpose To assess the frequency and clinical relevance of interactions associated with the use of antipsychotics, anxiolytics, antidepressants and sedative/hypnotics in a hospital.
Material and methods Cross-sectional observational study in which the treatment of adult patients admitted to a general hospital (1,350 beds) was reviewed. The investigators, using a computerised physician order entry program, evaluated pharmacotherapy of inpatients involving antipsychotics, anxiolytics, antidepressants and sedatives/hypnotics. They assessed drug-drug interactions and their clinical significance as described in the literature. Reference sources were the Micromedex database and the Spanish Society of Hospital Pharmacist's professional guide to drug interactions.
Results Treatment of 393 patients was analysed. Of these, 179 (45.5%) were prescribed one of the drugs studied; 53.6% were female and 46.4% male with mean age 65 (SD ± 17.7) years. The average number of drugs prescribed per patient was 12 (SD ± 4.41). A total of 221 drug interactions was detected (9.5% pharmacokinetic, 90.5% pharmacodynamic), affecting 70.4% of patients. A total of 42.8% were due to prescription of antipsychotics, 31.1% due to antidepressants, 18.5% to anxiolytics and 7.6% to hypnotics/sedatives. The medical specialties involved were surgery (22.4%), oncology (11.1%), cardiology (8.9%), internal medicine (8.9%) and psychiatry (8.4%). Based on clinical significance, 47.5% of interactions were severe, 25.3% moderate and 27.1% mild. Potential interactions with significant clinical effects were haloperidol-tramadol (increased seizure risk), escitalopram-low molecular weight heparin (increased risk of bleeding) and midazolam-morphine (increased sedation). Three contraindicated combinations were detected: escitalopram-metoclopramide for increased QT interval, linezolid-amitriptyline for serotonin syndrome and risperidone-metoclopramide for neuroleptic syndrome and extrapyramidal reactions.
Conclusion Prescription of antipsychotic drugs, antidepressants, anxiolytics and sedatives/hypnotics to inpatients is very common. These drugs cause numerous drug interactions, which can potentially have serious consequences for hospitalised patients.

REFERENCES AND/OR ACKNOWLEDGEMENTS

1 Psychiatric Department

No conflict of interest.

CP-006 PRACTICAL UTILITY OF ITPA GENOTIPATION IN A TERTIARY HOSPITAL

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Background Inosine triphosphatase (ITPA) genotyping is used for predicting anaemia in patients with genotype 1 chronic hepatitis C. The AA and CA genotypes have the lowest incidence of anaemia.

Purpose To compare the incidence of anaemia, the reduction in ribavirin (RBV) dose and the use of darbepoetin in patients treated with boceprevir or telaprevir before and after the introduction of ITPA genotyping in a tertiary care hospital.

Material and methods Observational, pre-post intervention study using pharmacotherapeutic records of patients treated with telaprevir or boceprevir before and after the introduction of ITPA genotyping. Anaemia was defined as haemoglobin (Hb) <10.5 mg/dL. Baseline characteristics were age, sex, fibroscan, basal Hb, nadir Hb and ITPA genotype. Homogeneity of baseline characteristics was evaluated by the t-test. Comparisons of the incidence of anaemia, the reduction of RBV dose and the use of darbepoetin were made with the independent proportions test.

Results Before genotyping 37 patients were included (27 male, 10 female): Mean fibroscan was 22 kpa, mean basal Hb was 15.6 mg/dL and mean nadir Hb was 10.4 mg/dL. After genotyping 20 patients were included (16 male, 4 female): 18 patients were CC (90%) and two were AC (10%). Mean fibroscan was 11.9 kpa (significantly lower than before genotyping). Mean basal Hb was 16.1 mg/dL and mean nadir Hb was 10.9 mg/dL.

Comparison of before and after results. Reduction in RBV dose: 43.2% vs. 40% (p = n.s.); anaemia: 35.1% vs. 45% (p = n.s.); and treatment with darbepoetin: 32.4% vs. 25% (p = n.s.)

Conclusion Although the reduced use of darbepoetin suggests the practical utility of this resource, a higher percentage of patients experienced anaemia after ITPA genotyping was available. This is possibly because the RBV dose was reduced by less than before genotyping even though 90% of patients were the CC (pro-anaemia) genotype. Greater emphasis should be placed on this resource.

No conflict of interest.

CP-007 HEPATITIS C VIRUS TREATMENT-RELATED ANAEMIA AND ITS ASSOCIATION WITH HIGHER SUSTAINED VIROLOGIC RESPONSE RATE

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Background Some authors have described that among Hepatitis C Virus (HCV) genotype 1-infected patients treated with dual therapy, anaemia has been associated with higher rates of Sustained Virological Response (SVR) as well as the use of erythropoiesis-stimulating agents.

Purpose To investigate the relationships between treatment outcomes, anaemia, and their management with ribavirin dose reduction and/or darbepoetin in patients treated with boceprevir (BOC) or telaprevir (TLV) in a tertiary hospital.

Material and methods Observational study. Data was collected from pharmacotherapeutic records of patients who initiated therapy with TLV or BOC between December'12 and May'13. Anaemia was defined as haemoglobin (Hb) <10.5 mg/dL. Darbepoetin was permitted for anaemic patients after ribavirin dose reduction. The variables were: age, sex, reduction of ribavirin dose and use of darbepoetin.

Results 36 patients were studied (26 men and 10 women). 23 (63.8%) patients were treated with TLV and 13 (36.2%) with BOC.

25 (69.5%) patients reached SVR (16 (69.5%) for TLV and 9 (69.2%) for BOC). 12 of these patients experienced anaemia (48%) (7 (43.8%) for TLV and 5 (55.6%) for BOC). The total number of patients who experienced anaemia was 17 (47.2%) (9 (39.1%) for TLV and 8 (61.5%) for BOC), 16 patients (44.4%) had a reduction in their ribavirin dose (8 (34.8%) for TLV and 8 (61.5%) for BOC) and 12 patients (33.3%) used darbepoetin (6 (26.1%) for TLV and 6 (46.1%) for BOC); 8 of these 12 (66.6%) patients showed SVR, 1 relapsed and 3 abandoned treatment due to adverse events (4 (66.6%) for TLV and 4 (66.6%) for BOC).

Conclusion

1. Among our genotype 1-infected patients treated with BOC or TLV anaemia was not associated with higher rates of SVR.
2. Patients with darbepoetin did not have higher rates of SVR.
3. Percentages of SVR were similar between TLV and BOC.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

CP-008 A CLINICO-ETHICAL FRAMEWORK FOR MULTIDISCIPLINARY MEDICINES REVIEW IN NURSING HOMES: A HEALTH FOUNDATION SHINE PROJECT

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Background Polypharmacy is common in care home residents. Inappropriate and potentially harmful prescribing in older people has been reported extensively in the literature. Residents in care homes often have little involvement in prescribing decisions involving them. Reviewing and stopping inappropriate medicines is not standard practice across the health economy.

Purpose To develop a method of optimising medicines whilst ensuring that all residents were involved in decisions.

Material and methods Pharmacists undertook a detailed medicines review using primary care records and presented to a multidisciplinary team (MDT) meeting with the care home nurse and general practitioner. The team considered:

- Is the medicine still needed?
- Is the medicine beneficial, taking into account co-morbidities?
- Are any appropriate medicines not being prescribed?

Following the MDT meeting, residents were asked their views before any intervention was made. Residents were followed up after the review to identify any adverse events. Any residents taking psychotropic medicines were discussed with a Psychiatry of Old Age Services consultant where appropriate.
Results In total 422 residents in 20 care homes were reviewed; 1,346 interventions were made in 384 (91%) residents, with the most common intervention being to stop a prescription. 704 medicines were stopped in 298 residents. 1.7 medicines were stopped for every resident reviewed (range 0 to 9 medicines; SD 1.7), giving a 17.4% reduction in medicines prescribed. The main reasons for stopping medicines were a lack of current indication (57%) and residents not wanting to take the medicine (17%). 41 medicines (6%) were stopped because of safety concerns. Follow-up found 9 minor events following stopping medicines. The net annualised savings against the medicines budget were €99,340 or €235 per resident reviewed.
Conclusion This project demonstrated that a multidisciplinary medicines review involving a pharmacist, doctor, care home nurse and the resident can safely reduce over-prescribing and inappropriate medication whilst generating significant savings from the medicines budget.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict ofinterest.

CP-009 IMPACT OF PHA… QUALITY OF LIFE… PATIENTS WITH …

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10.1136/ejhpharm-2015-000639…

Background Chemotherapy… cal Malignancies (HMs) has… effects (AEs). Such sympto… life (QoL). Adjuvant drugs … these AEs. For patients at … complicated because of th… (antiemetics), only in the … (antibiotics), etc.
Purpose In our hospital, patients receiving their first chemotherapy for an HM benefit from a pharmaceutical intervention (PI).

We conducted a prospective study approved by the local ethics committee to determine the impact of the PI on pain, fatigue, QoL and coping strategies in patients undergoing chemotherapy for an HM.
Material and methods Patients received either usual care (UC) + PI (PI group) or UC alone (UC group). They had to complete the QLQ-C30 and MAC 21 questionnaires before starting the 1st chemotherapy session (T1), during the inter-treatment interval (T2) and the day before starting the 2nd chemotherapy session (T3).

To determine predictive factors of pain, fatigue and QoL at T3, a univariate followed by a multivariate ANOVA was used. The time until definitive deterioration was estimated using a Kaplan-Meier method.
Results 68 patients were included in the PI (n = 34) or UC groups (n = 34). Ninety-two percent of the patients returned all the questionnaires. At T3, pain and fatigue were lower in the PI group. Between T1 and T3, QoL remained stable. We identified a significant improvement of 5 points in QoL for patients in the PI group.
Conclusion Whatever the statistical model used, the pharmacist intervention at the beginning of chemotherapy had a less than significant impact on pain and fatigue but nevertheless it was confirmed to have had a significantly positive impact on QoL.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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No conflict ofinterest.

CP-010 ADHERENCE TO LONG-TERM MEDICINES IN HIV-INFECTED PATIENTS

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…s have increased …s studied adherence …

…s (non-antiretroviral …ell as to evaluate its …tors.
…tudy was conducted …tients treated with …vere collected: sex, …ode of transmission, …f ART and adher…ment), using the 4-…The chi-squared test …ifferent variables on …

…% male, mean age …n mode of transmis… cells/mm ^{3} (IQR: …T-CD4 ‡ 500 cells/mm (56.3%) and undetectable viral load (74.6%). 63.5% of them had AIDS. ART was mainly (36.5%) two nucleoside/nucleotide reverse transcriptase inhibitors (NRTIs) with one non-nucleoside reverse transcriptase inhibitor (NNRTI). The percentage of patients adherent to other LTMs (non-antiretroviral therapy) was 46.0%. The variable AIDS exhibited a statistically significant relationship with non-adherence (OR = 2.2; CI [1.1 –4.7]; p = 0.041). The most common long-term medicines were sedatives and anxiolytics (42.9%), lipid-lowering drugs (35.7%), antihypertensives (33.3%), gastrointestinals (28.6%), antidepressants (15.1%), antidiabetics (12.7%), analgesics (11.1%), antiasthmatics (9.5%) and cardiovascular drugs (87.9%).