CPC-135 THE EFFECT OF GENDER ON THE USE OF MEDICINES IN MULTIPLE SCLEROSIS PATIENTS

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Background Multiple Sclerosis (MS) is a chronic inflammatory disease of the central nervous system that disables young adults. Epidemiological studies have shown that women are more likely to develop MS than men (ratio 2:1); however, the pathogenesis and treatment of MS in regards to gender has not been extensively studied.
Purpose To evaluate gender-related differences of relapsing-remitting MS patients in response to treatment with natalizumab.
Materials and Methods AIFA-NEURO records relative to patients treated with natalizumab in the Neurology Division of L'Aquila were examined from May 2007 to September 2012. A total of 39 patients were recruited, of which 82% were females. The average age of patients starting the treatment was 33 for females and 36 for males. An Expanded Disability Status Scale (EDSS) score was assigned for each patient before natalizumab treatment was started. The number of relapses in the 12 months before starting treatment with natalizumab were calculated and recorded.
Results EDSS scores were similar (average = 2.8) in females and males. In contrast, females were more likely to have relapses compared to men (1.8 vs. 1.4). Only 3 patients were treated with natalizumab as the first-line drug; all other patients were first treated with a combination of 2 or 3 drugs. Females were more likely than males to have previously been treated with (IFN)-β 1a compared to (IFN)-β 1b (62.5% vs. 37.5%), while men had previously been treated with both equally (57%). Additionally, females were more likely to have been treated previously with glatiramer acetate (44% vs. 14%). All patients received an average of 10.5 administrations of natalizumab per year. All patients are currently undergoing treatment except for 5 females who developed autoimmune reactions.
Conclusions The study describes gender-related differences in response to pharmacological treatments for MS. The results suggest that research should be conducted into the gender response to MS treatments.

No conflict of interest.

CPC-136 THE EFFECTS OF USING A TREATMENT PLAN FOR DISPENSING BIOLOGICAL DRUGS IN RHEUMATIC DISEASES IN ASP 8 OF SYRACUSE, ITALY

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Background Rheumatic diseases are chronic diseases with a high cost. New drugs are the anti-TNF inhibitors adalimumab (A) and etanercept (E). The Infectious Diseases Unit of Umberto I Hospital, Syracuse, Italy, was identified as a Regional Centre for the prescription of biologicals. Furthermore, D.A. 0264/16.02.2011 authorised a regional Treatment Plan (PT) by which these drugs are to be dispensed, health care costs and appropriateness of prescription monitored.
Purpose To evaluate the consequences of the PT and the effects of A and E on PCR values and number of joints involved (NJI).
Materials and Methods The PT is annual and consists of two sections containing: 1. Demographic features, diagnosis, prior therapy with any failures, clinical and laboratory data (NJI, PCR), date of first prescription and dose of biological agent. 2. Follow-up at 6 months, with the assessment of therapeutic efficacy (excellent, good, adequate, inadequate), side effects and updated clinical data.
Results Overall, 56 PTs were examined: 32.7% of patients (mean±SD age: 50.7 ± 12.1) taking A and 67.3% (mean±SD age: 54.1 ± 13.7) taking E. In subjects treated with A the PCR values were: 0.5 ± 1.0 g/dl (baseline) and 0.1 ± 0.2 g/dl (6 months); NJI were: 11.9 ± 7.2 (baseline) and 10.1 ± 9.2 (6 months). In subjects treated with E, the PCR values were: 2.5 ± 6.2 g/dl (baseline) and 1.2 ± 3.9 g/dl (6 months); NJI were: 15.4 ± 10.8 (baseline) and 8.2 ± 8.2 (6 months).
Conclusions The use of A and E has been shown to improve the clinical condition of the patients. Furthermore, the use of the PT has allowed all patients with rheumatic diseases in the province of Syracuse to access a dedicated health facility, reducing their physical/economic inconvenience. A significant economic benefit was recorded for the ASP 8, not having to refund the costs of flow-compensation activation (File F).

No conflict of interest.

CPC-137 THE PERCENTAGE OF MEDICINES ORDERS FOR INTERMITTENT TREATMENT THAT ARE "REVIEWED" BY A PHARMACIST FOR "SAFE PRESCRIBING"

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Background A multidisciplinary panel chose the percentage of medicines orders for intermittent therapy that have been reviewed by a pharmacist for safe prescribing as a valid and feasible performance indicator for the Mater Misericordiae University Hospital (MMUH) clinical pharmacy service. Fatalities have been reported due to errors in the prescribing and administration of intermittent medicines. Pharmacists have a recognised role in clearly communicating intermittent medicines orders.
Purpose

1. To develop a performance indicator descriptor and data collection tool for the chosen indicator.
2. To measure the percentage of medicines orders for intermittent medicines that had been reviewed by a pharmacist for safe prescribing.

Materials and Methods A performance indicator descriptor and data collection tools were developed and piloted. 100 in-patient beds were randomly selected. All patients supplied with methotrexate or an erythropoiesis stimulating agent 14 days prior to data collection were included. Pharmacists were not informed data collection was taking place. An independent pharmacist collected the data to reduce bias. Data collection was checked for inter-rater reliability.

Intermittent medicines were defined as 'safely prescribed' if the day(s) of the week that the medicine was to be taken were stated and the day(s) when the medicine was not to be taken were crossed out in the administration section of the drug chart.

Medicines orders were classified as fully 'reviewed' by a pharmacist when (in addition to checking the dose and frequency of the prescribed medicine) the above parameters, if not entered by the prescriber, were completed by the pharmacist as outlined by the Clinical Pharmacy Services Standard Operating Procedure (SOP).
Results 79% (48/61) of medicines orders for intermittent medicines were 'reviewed' by a pharmacist for 'safe prescribing'.

21% (13/61) had been signed as clinically reviewed but did not fully meet the criteria of a safely prescribed intermittent medicines.

11% (7/61) were prescribed as per MMUH prescribing policy and did not require further endorsements by a clinical pharmacist.

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Conclusions A valid tool was developed that measured the baseline performance of the MMUH clinical pharmacy service for the safe prescribing of intermittent medicines. Clarification of the clinical pharmacy services SOP will lead to improved performance as pharmacists had varying interpretations of the SOP.

No conflict of interest.

CPC-138 THE PRESCRIPTION OF ANTHRACYCLINES DURING PREGNANCY IN HAEMATOLOGY: CASE REPORTS AND LITERATURE REVIEW

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Background Anthracyclines are one of the most important groups of drugs used nowadays in cancer chemotherapy. Chemotherapy is essential in the management of haematological malignancies (HM). When acute leukaemia (AL), aggressive non-Hodgkin's lymphoma (NHL) or Hodgkin's lymphoma (HL) occur during pregnancy, chemotherapy is an emergency but foetal risk must be considered.
Purpose To evaluate foetal and maternal outcomes associated with the prescription of anthracyclines in pregnant women with HM.
Materials and Methods Cases of pregnant women with AL, NHL or HL treated by anthracyclines were collected from the Teratogenic Agent Information Centre (TAIC), a French reference centre providing specialised information for clinicians about drug use in pregnancy. A literature review was performed in the PubMed and Embase databases until May 2012 (keywords: pregnancy, acute leukaemia, Hodgkin lymphoma, non-Hodgkin lymphoma, cancer chemotherapy, doxorubicin, daunorubicin and idarubicin). Selection criteria of articles: diagnosis of HM and anthracycline prescription during pregnancy, foetal outcome.
Results We report 5 cases of pregnant women with HM (4 AL, 1 HL) treated early in the 3rd trimester by chemotherapy with doxorubicin or daunorubicin at standard dosage. All 5 newborns were normal, but 2 were premature deliveries. 3 maternal outcomes were complete remission (2 unknown). 81 articles were selected, corresponding to 134 pregnant women with AL (95 cases), HL (16) or NHL (23) treated by chemotherapy with daunorubicin (65 cases), doxorubicin (59) or idarubicin (10). Normal neonatal outcomes (100/134) were 88%, 68% and 40% for doxorubicin, daunorubicin and idarubicin respectively, 79%, 77% and 45% for exposure from 3rd (26 cases), 2nd (69) and 1st trimester (11) respectively and 96%, 81% and 68% in NHL, LH and AL respectively. Foetal toxicities were death (20), growth retardation (8) and congenital abnormalities (6). Only idarubicin was associated with foetal cardiomyopathy. 97 maternal outcomes were known with remissions (71 cases) and progressions, relapses or deaths (26 cases).
Conclusions Embryo-foetal toxicity depends on gestational age, anthracycline and HM. 2nd or 3rd trimester exposures were mainly associated with favourable neonatal outcomes. Idarubicin was specifically associated with a risk of foetal cardiotoxicity, probably due to its lipophilic nature, facilitating placental transfer. Unfavourable foetal outcomes were more frequent in AL compared to lymphomas, probably reflecting that chemotherapy can never be delayed till post-partum in AL. It is possible to prescribe anthracyclines for HM in the 2nd and 3rd trimesters of pregnancy with minimal risk to the developing foetus but then the treatment must be conducted by a multidisciplinary team.

No conflict of interest.

CPC-139 THERAPEUTIC DRUG MONITORING FOR GLYCOPEPTIDES AND AMINOGLYCOSIDES: ACTUAL SITUATION AND PERSPECTIVES IN A FRENCH UNIVERSITY HOSPITAL

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Background Optimising glycopeptide and aminoglycoside treatment with Therapeutic Drug Monitoring is recommended. Underdosing can lead to resistance and ineffective treatment while over-dosing is associated with toxicity.
Purpose To evaluate current practise by monitoring aminoglycosides and glycopeptides in a French university hospital: levels (trough and peak concentrations) and percentage of optimal concentrations based on our internal antibiotics guide.
Materials and Methods Prescriptions for glycopeptides and/or aminoglycosides, of which at least one dose had been given, were reviewed over one month (February–March 2012). Our data pool contained: patient characteristics, infection and antibiotic treatment background, serum concentration.
Results A wide range of official optimal target serum concentrations has been recommended (Consensus Review of the American Society of Health-System Pharmacists, French Pharmacology and Therapeutic Society, internal guidelines, etc.)

91 prescriptions (31 aminoglycosides, 60 glycopeptides) were analysed: the largest percentage was represented by vancomycin (55%) 80% of which were for continuous infusion. Serum vancomycin concentrations are optimised by using continuous regimens (Table 1).

For the two regimens, (continuous and intermittent, 10% of trough vancomycin serum concentrations were below 10 mg/L, exposing the patient to to subtherapeutic doses and a higher risk of selecting resistant microorganisms.

10 prescriptions for teicoplanin were reviewed: 70% of serum concentrations were below 20 mg/L and 30% below 10 mg/L.

50% of aminoglycosides trough concentrations were below the internal guideline values and target peak concentrations were not reached (amikacin: 67% under 60 mg/L, gentamycin: 90% under 30 mg/L).
Conclusions Most aminoglycosides and glycopeptides concentrations didn't reach required therapeutic levels during this study. Consensus guidelines should be proposed to avoid bacterial resistance and guide clinical practise.

Abstract CPC-139 Table 1 Serum vancomycin concentrations vary with the infusion regimens

		Continuous infusion regimens	Intermittent infusion regimens
Optimal vancomycin concentrations	[20–30] mg/L	42%	27%
Subtherapeutic vancomycin concentrations	<20 mg/L	33%	54%
	<10 mg/L	8%	27%

No conflict of interest.

CPC-140 THERAPEUTIC OPTIONS IN ANTI-NMDA RECEPTOR ENCEPHALITIS

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