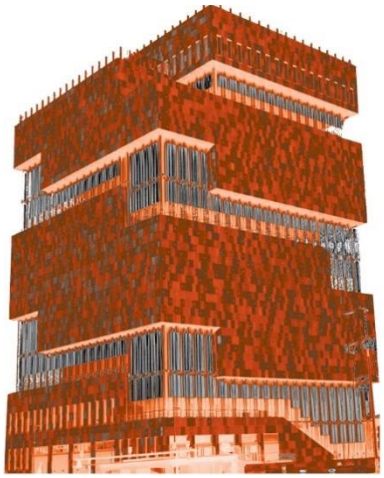

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Abstract Book

OR1.1

USE OF DIRECT ORAL ANTICOAGULANTS IN A REAL-WORLD SETTING: ASSESSING ADHERENCE, DRUG INTERACTIONS AND DOSING.

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Is this work original?: Yes

Please specify your abstract type: Research abstract

Background and Objective: The emergence of direct oral anticoagulants (DOAC) has caused a paradigm shift in anticoagulation therapy, with DOAC being increasingly used compared to vitamin K antagonists. Despite the numerous RCTs with DOAC, little is known about their real-world use. This study aimed to describe DOAC use in a primary care sample of long-term DOAC users, and investigated (i) adherence, (ii) patients' perceptions, (iii) drug interactions and (iv) appropriateness of dosing.

Setting and Method: A cross-sectional observational study was conducted in 158 community pharmacies in Belgium. Participants were home-dwelling adults treated with a DOAC for at least one year. They completed a questionnaire collecting data on socio-demographics, clinical characteristics, current medication use, self-reported adherence to DOAC (via Medication Adherence Report Scale, MARS), and beliefs & perceptions about DOAC (via Beliefs about Medicines Questionnaire, BMQ). Pharmacy dispensing data of DOAC and the most recent serum creatinine level were also collected.

Main outcome measures: Adherence to DOAC (self-reported (MARS) and calculated using pharmacy dispensing data (Medication Possession Ratio (MPR)); patients' beliefs & perceptions about DOAC (BMQ); prevalence of drug interactions and inappropriate dosing (assessed using the recommendations in the summary of product characteristics (SmPC) and the 2018 European Heart Rhythm Association (EHRA) Practical Guide).

Results: Participants (n=766) had a mean age of 76.2±8.8 years, several co-morbidities (median of 5; IQR 4–6) and high thromboembolic risk (median CHA_2DS_2-VASc score of 4; IQR 3–4). Forty point five percent of patients used rivaroxaban, 36.2% apixaban, 21.1% dabigatran and 2.2% edoxaban. About 85% was adherent according to MPR (MPR≥80%) and self-reported adherence was also high (mean MARS score 24.6±1.0). Two-thirds reported at least one adverse event of the DOAC, with easy bruising/bleeding being most prevalent (40.2% of patients). BMQ showed that 91.3% of patients favoured the 'necessity' over the 'concerns' of DOAC use. Thirty-one percent of patients had ≥1 drug interaction(s) with DOAC; amiodarone (10.4% of patients), antiplatelet agents (9.7%) and NSAIDs (9.0%) were the most common interacting drugs. DOAC dosing was inappropriate in 15.6% of patients according to SmPC and in 23.1% according to EHRA. Intriguingly, underdosing was more common using the SmPC as reference, while overdosing was more common using the EHRA guideline.

Conclusion: This real-world analysis of DOAC use revealed high adherence and necessity beliefs, drug interactions in 30% of patients, and suboptimal dosing in about one fifth of patients. These findings can inform the design of targeted community pharmacist interventions to improve quality of DOAC use.

Disclosure of Interest: None Declared

OR1.2

A SURVEY OF PRESCRIBERS IN THE SCOTTISH HIGHLANDS ON THEIR PERSPECTIVES OF THE BENEFITS AND LIMITATIONS OF DIRECT-ACTING ORAL ANTICOAGULANTS

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Is this work original?: Yes
Please specify your abstract type: Research abstract

Background and Objective: The introduction of dabigatran, followed by other direct-acting oral anticoagulants (DOACs), rivaroxaban, apixaban and edoxaban, has led to significant changes in the management of non-valvular atrial fibrillation (AF). A recent systematic review identified a lack of robust research on the prescribers' perspectives of DOACs. The objective of this research was to determine prescribers' perspectives of the benefits and limitations of DOACs in the management of non-valvular AF.
Setting and Method: This study was a cross-sectional survey of all prescribers, including non-medical prescribers, practising in any setting of the Scottish Highlands. The questionnaire was developed, reviewed for face and content validity and piloted. One section of the questionnaire contained open questions on aspects of benefits and limitations of DAOCs, also asking for descriptions of positive and negative experiences of using DOACs. Content analysis was of responses was undertaken by two independent researchers. The study was approved by a university ethics committee and the regional Research and Development committee.
Main outcome measures: Perceptions of benefits and limitations and description of positive and negative experiences of DOACs.
Results: Of the 154 responses received, 16 were excluded as having never prescribed DOACs. Ninety-nine respondents (71.7%) provided responses on benefits and limitations. The key benefits were: the absence of INR monitoring; being beneficial for patients with liable INR; potential for better patient adherence; and more suitable dosing regimen compared to warfarin. Limitations were: lack of a suitable reversal agent; high cost compared to warfarin; and lack of ability to monitor anticoagulant effect. Seventy-two respondents (52.2%) provided descriptions of their positive experiences of DOACs, the main being surrounding the absence of need to monitor INR. Descriptions of negative experiences were provided by 64 respondents (46.4%), the main being related to bleeding.
Conclusion: This study has identified a number of benefits and limitations of DAOCs and positive and negative experiences. All health professional should be alert to these and monitor patients appropriately. Furthermore, all prescribers should be encouraged to report adverse effects to national and international pharmacovigilance organisations.

Disclosure of Interest: None Declared

OR1.3

ASSESSMENT OF RISK FACTORS FOR NON-ADHERENCE TO DIRECT ORAL ANTICOAGULANTS IN A DUTCH POPULATION

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Is this work original?: Yes
Please specify your abstract type: Research abstract

Background and Objective: Because the direct oral anticoagulants (DOACs) are increasingly used, non-adherence to these drugs remains a matter of concern due to possible negative health outcomes. The aim of this study is to assess adherence to the DOACs and to determine possible risk factors for non-adherence in a cohort of Dutch patients.
Setting and Method: Retrospective study of DOAC users who completed a self-reported questionnaire. Self-reported DOAC adherence was measured with the Morisky 8-item Medication Adherence Scale (MMAS-8). Binary logistic regression analysis ($p<0.05$) was conducted to investigate risk factors affecting non-adherence. Non-adherence was defined as an MMAS-8 score ≥1.
Main outcome measures: The rate of DOAC adherence and potential risk factors contributing to non-adherence.
Results: In total, 398 DOAC users completed the questionnaire (mean age 70.6 ± 9.2 years; 35.4% female). Approximately one in four (24.9%) DOAC users were classified as non-adherent. Multivariable analysis showed that patients who indicated to have received insufficient information about the possible side effects of the DOACs had a higher risk of being non-adherent compared to patients who received sufficient information (OR 2.67; 95% CI 1.01-7.02). Also, patients who responded that the information obtained from different healthcare providers did not match, had a higher risk of non-adherence (OR 6.03; 95% CI 1.09-33.26). Finally, patients who were in disagreement with the statement that they were sufficiently involved in the treatment choice by their healthcare professional showed a higher risk of being non-adherent compared to their counterparts that reported to be sufficiently involved (OR 7.16; 95% CI 1.03-49.70).
Conclusion: Our study showed that adherence to DOACs is suboptimal with only 75% of patients reporting to be adherent. Failure to communicate information about possible side effects to the patients, conflicting information received from different healthcare providers and lack of shared decision making were found to be risk factors negatively affecting DOAC adherence.

Disclosure of Interest: None Declared

OR2.1

MEDICATION ADHERENCE FROM DISPENSING DATA – POPULATION CHARACTERISTICS FOR A NEW APPROACH TO CATCH DYNAMIC BEHAVIOUR

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract

Background and Objective: Deriving medication availability from dispensing data is a common method to estimate patient medication adherence. The Medication Possession Ratio (MPR) is the most often used measure and averages medication supplies over a defined period, mostly one year. However, the variability of the refill behavior over time i.e., the dynamic of adherence, is erased by averages.
We aimed at developing a new approach to describe the dynamic of medication refills. We selected direct oral anticoagulant (DOAC) for their non-forgiving property that requires strict adherence. We present the investigated population characteristics.
Design: Switzerland counts 130 TopPharm independent pharmacies, from which 39 with shared IT participated in the study. We extracted dispensing histories of patients with at least two dispenses before 31.12.2017 up to 10.01.2008 (10 years coverage). We selected patients with at least 19 consecutive dispenses to guarantee a refill period of over 1.5 years in theory. Approval was obtained from the local Ethics Committee (EKNZ Nr. 2018-1490).
Results: A total of 2'919 patients fulfilled the extraction criteria of which 118 (4%) patients had at least 19 consecutive dispenses. Patients were on average 72.01±10.91 years old at the first dispense, with 54.2% women. A mean of 15±7.84 different medications was dispensed during the first year. Refill period ranged from 0.74 to 5.39 years (mean 3.15 years). Mean time between two refills was 60.5±25 days. Therapy remained unchanged over 19 refills for 61% of the patients. Most dispensed DOAC were rivaroxaban (69.3%) followed by dabigatran (15.7%) and apixaban (15%). Switch was rare (16.1%) and mostly from rivaroxaban to apixaban (54.5%). Mean MPR was very high with 0.983±0.14 and only 12 patients (10.2%) had a MPR below 0.8.
Conclusion: A population with long-term medication is a prerequisite for the development of a new calculation of adherence from refill data. DOAC are predestined due to the requirement of a strict intake time.
Outlook: We will apply a new calculation method on the presented population and compare it to the historical MPR. With cluster analysis, we aim at characterizing similar refill behavior of patients.

Disclosure of Interest: None Declared

OR2.2

EVALUATION OF THE PERIOPERATIVE MANAGEMENT OF ANTICOAGULANT AND ANTIPLATELET AGENTS IN THE PREOPERATIVE CLINIC OF A 200-BED PERIPHERAL HOSPITAL

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract

Background and Objective: In our preoperative clinic, patients are successively seen by a clinical pharmacist, then a nurse and finally an anaesthetist. A multi-disciplinary consultation report (MDCR) is generated electronically. This is used by nursing and pharmacy staff as a working document to establish the patients' drug history on admission and is subsequently validated by the surgeon as the patients' prescription. Also, hospital-wide guidelines on the perioperative management of anticoagulants and antiplatelet agents published by the anaesthetic department and pharmacy are available. In this context, we wanted to evaluate the perioperative management of anticoagulants and antiplatelet agents of patients attending the preoperative clinic.
Design: Between November 2018 and January 2019, clinical pharmacists collected data on the patients they were seeing in clinic. While taking drug histories, anticoagulants and antiplatelet agent use, as well as existing plans for perioperative management of these drugs were recorded. Afterwards, the perioperative drug management plan was retrieved from the consultation report. This report was checked for completeness and clarity. Existing perioperative management plans (PMP) for anticoagulants and antiplatelet agents were compared with those found in the consultation reports.
Results: 438 patients were screened. 133 of them were taking anticoagulants and/or antiplatelet agents. 25% of MDCR were incomplete or unclear. 30% of patients (n=40) had already received instructions from a doctor on the perioperative management of their medication before attending the clinic. Most of them (n=29) had been instructed by their surgeon, 6 by their cardiologist, 2 by their GP. 3 patients had been given instructions from both the surgeon and the cardiologist, but these instructions were contradictory. The anaesthetists confirmed 25 of these PMP, 6 were modified, for 2 patients no information was found in the consultation report, for 2 patients the report was unclear or contradictory and 1 patient was referred to a cardiologist. 7 patients had already stopped their anticoagulant or antiplatelet medication on their own initiative. When looking at their MDCR, information on the perioperative drug management was lacking for 3 patients. Medication stop was confirmed for 2 patients, 1 patient was referred to a cardiologist and 1 patient was urged to re-start the stopped drug immediately.
Conclusion: The MDCR should be more standardised, including mandatory fields. The hospital-wide guidelines for the perioperative management of anticoagulants and antiplatelet agents should be promoted regularly. Healthcare professionals should raise the patients' awareness of the importance not to stop anticoagulant and antiplatelet medication on their own initiative.

Disclosure of Interest: None Declared

OR2.3

PHARMACISTS MONITORING THE SAFETY OF ORAL ANTICOAGULANTS: A MULTI-REGIONAL PROJECT IN ITALY

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Is this work original?: Yes

Please specify your abstract type: Descriptive abstract

Background and Objective: The use in clinical practice of oral vitamin K antagonists (VKAs) and non-vitamin K antagonist oral anticoagulants (NOACs) must be carefully monitored for potentially associated risks. In Italy, the multi-regional pharmacovigilance project "MEREAFaPS 5.0" involves various clinical areas: oncology, hematology, emergency department and anticoagulation clinic. Specifically, the monitoring of risk-benefit ratio of anticoagulants is carried out within the “FARMAMICO” sub-project, with a close collaboration between healthcare providers and pharmacists involved in pharmacovigilance.

Design: It was carried out a retrospective analysis of the adverse drug reactions (ADRs) reported within the “FARMAMICO” project during 2018. The number of ADRs was then related to the defined daily doses (DDDs), whose sources were National Pharmacovigilance Network (for ADR) and IMS Health (for DDD). Descriptive analysis methods were used.

Results: In 2018 the “FARMAMICO” project collected 948 ADRs. The majority of these was severe (70.8%), with hospitalization in 65.7% of cases, highlighting the relevance of monitoring in this area. 53.5% of cases had an improvement in the condition, while 21.2% went into full resolution, emphasizing the effectiveness of the interventions to handle ADRs. The preventable reactions were more than half (54.2%); these could be analyzed to implement strategies of improvement and prevention. Relating the number of ADRs to the DDDs consumed (ADRx10.000/DDD), the risk was observed in relation to the actual use of the drug. In Italy the safest drug seems to be Edoxaban (with the lowest ADR/DDD ratio=0.17), followed by Apixaban (0.52), Acenocumarolo (0.63), Warfarin (1.68), Rivaroxaban (1.87) and Dabigatran (3.47), resulting as the least safe, with the highest ADR/DDD ratio. The same data calculated in Lombardia put all the NOACs at the first places for security, in the same order as in Italy, followed by the VKAs, according to expectations and registration data.

Conclusion: The greater security in the use of NOACs than VKAs is confirmed by real-life data in Lombardia, but not in Italy. Undoubtedly, underreporting is the central problem, which can be overcome by pharmacovigilance interventions such as the "FARMAMICO” project. With the central role of pharmacist as monitor, it has contributed to provide more truthful and reliable information, constantly improving over the months.

Disclosure of Interest: None Declared

PP01

MAAESTRO STUDY – PRELIMINARY ADHERENCE RESULTS OF ANTICOAGULATED STROKE PATIENTS

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Is this work original?: Yes
Please specify your abstract type: Research abstract

Background and Objective: MAAESTRO is a randomised, controlled, cross-over study aiming at improving adherence of stroke patients to polypharmacy including direct oral anticoagulants (DOAC). Keeping a regular intake time of DOAC is crucial due to their non-forgiving pharmacokinetic property. The study started in January 2017 at the University Hospital Basel (Switzerland). A total of 130 patients will be recruited. During 12 months, patients electronically self-monitor their medication intake with a smart card (Time4Med™). Subjective adherence is assessed during a medication review at 6 and 12 months. We present baseline data i.e., adherence from the first 6 months of MAAESTRO.
Setting and Method: Time4Med™ records date and time of medication intake when pushing a button. We defined "dosing time" as the intake time of the medications. We calculate adherence from electronic data as "Taking adherence" (total number of recorded events divided by total number of prescribed dosing times) and "Timing adherence" (total number of recorded events within 25% of the average dosing time divided by total number of prescribed dosing times). Self-reported adherence is assessed with the question: "Did you forget to take your [name] medication in the last 6 months?"
Main outcome measures: Taking adherence, Timing adherence and "Yes" as self-reported non-adherence.
Results: The first 17 patients (35.3% female) finishing six months of monitoring had a median age of 76 years (range 50-89 years) and took 3 to 13 different medications (median=7). Most of the patients (76.5%) had a twice-daily DOAC. Mean Taking adherence was 79.9% (SD=11.5%), mean Timing adherence was 78.6% (SD=11.2%). During medication review, eight patients (47.1%) admitted to miss the intake of medications, of which three were DOAC. Taking or Timing adherence did not differ from patients denying forgetfulness (p=0.248 and p=0.290).
Conclusion: Taking and Timing adherence around 80% are critically low for DOAC-treated stroke patients, and denote missed dosing times that can lead to sub-therapeutic blood concentrations and thus, increase the risk of a thromboembolic event. Medication reviews were able to reveal non-adherence in about half of the patients. However, it is too early to derive firm correlation with electronic adherence data.

Disclosure of Interest: None Declared

PP02

THE IMPACT OF PATIENT MEDICATION ADHERENCE ON HBA1C LEVEL AMONG TYPE 2 DIABETES MELLITUS PATIENTS

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Is this work original?: Yes
Please specify your abstract type: Research abstract
Background and Objective: Background: pharmacist counselling has a positive effect patient's medication adherence and on patient's glycaemic control, therefore, on health outcome. There is a great interest to assess the impact of pharmacist counselling on medication adherence and glycaemic control. **Objectives:** This study assessed the impact of pharmacist counselling and follow-up on medication adherence and HbA1c Levels
Setting and Method: Methods: This interventional study used longitudinal method in order to compare the diabetic patients' HbA1c levels before ('pre-intervention period') and after the intervention ('post-intervention period'). A total of 102 patients have volunteered and met the inclusion criteria. HbA1c levels were extracted form patients' medical files before applying pharmacist intervention and compared with HbA1c levels after applying pharmacist intervention. The pharmacist followed up the patients once a month at the hospital and twice a month through phone calls for six months. HbA1c is measured in this study from laboratory test results. HbA1c is classified into two categories which are poor control and good control, in both baseline (pre) and at the end of the study (post). Good (HbA1c ≤ 6.5%) and poor (HbA1c > 6.5%). Data were analysed by the statistical package for social sciences (SPSS v20).
Main outcome measures: HbA1c is measured in this study from laboratory test results. HbA1c is classified into two categories which are poor control and good control, in both baseline (pre) and at the end of the study (post). Good (HbA1c ≤ 6.5%) and poor (HbA1c > 6.5%). Data were analysed by the statistical package for social sciences (SPSS v20).
Results: 73.5% of patients were male, where 81.4% of the patients who participated in this study were aged 61–70 years old. There were significant differences between HbA1c pre-test and post-test which the P-value <0.001, where, 40% of good control HbA1c recorded before the intervention has increased to 60% after the intervention program, whereas, 60% of patients with poor control HbA1c had decreased after the intervention program to 40%.
Conclusion: Conclusion: This study reflects the importance role of pharmacist counselling on patient's glycaemic control, whereas patients who received pharmacist counselling exhibited a perfect rate of medication adherence and in turn lead to successful glycaemic control.

Disclosure of Interest: None Declared

PP03

NEED ASSESSMENT OF ESTABLISHING PHARMACIST MANAGED ANTICOAGULATION CLINIC AT TIKUR ANBESSA SPECIALIZED HOSPITAL, ADDIS ABABA, ETHIOPIA

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Is this work original?: Yes
Please specify your abstract type: Research abstract

Background and Objective: Pharmacist-managed anticoagulation clinic (PMAC) represents a model that provides patients with more consistent anticoagulation management, closer monitoring, better education and awareness on anticoagulation therapy, better effective treatment outcome than the other anticoagulation models in achieving target anticoagulation control, maintaining target international normalized ratio (INR) range, reducing bleeding and thromboembolic complications and better patient satisfaction
Setting and Method: A cross sectional study design was conducted at TASH, Addis Ababa, Ethiopia from April 17- 30, 2018 by identifying existing gaps and recommendation by interviewing 15 physicians from different specialties and 20 patients exit interview to assess their overall perception,satisfaction about current AMS provided to them in the hospital. Then an observation was made to have a clear picture of the current workflow of AMS.
Main outcome measures: The presence of different protocols which are required to provide quality AMS and patients overall satifiaction and perception toward AMS provided to them was assessed.
Results: Only three physicians responded they had warfarin initiation and maintenance dosing protocols. Out of 15 study participants; seven, four and eight of them stated that they use protocols for VTE risk and bleeding risk assessment, and VTE prophylaxis and treatment. Similarly, the response on availably of remaining functional protocols was also very suboptimal. Out of the total, 80% of respondents stated that inadequately trained healthcare professionals, irregular availability of drug and INR testing, long appointment time, lack of patient education and counseling, and INR testing irregular availability are the main challenges of existing AMS. All patients involved in the study knew the name of the anticoagulant drug they were taking. All respondents responded that they have bought the drug out of the hospital pharmacy and went for INR testing outside the hospital laboratory in more than one occasion. Even when the INR testing service is available at the hospital, they reported as they should come to the hospital for two days to obtain this service. Among 20 respondents, 12(60%) said their medical cards were lost during follow up several times. Fourteen (70%) described that there is a long waiting time that affects their satisfaction towards the service. The absence of separate/suitable room for counseling service was also reported by all of the respondents which decreased the desired expectation from the current service.
Conclusion: Study participants suggested the need of establishing anticoagulation clinic is very crucial to provide better AMS in the hospital than usual medical care. Based on this suggestion and consultation of literatures, study investigators recommended establishing PMAC in TASH is vital.

Disclosure of Interest: None Declared

PP04

EVALUATION APPROPRIATENESS OF PARENTERAL NUTRITION USAGE IN GENERAL HOSPITAL CENTER

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract

Background and Objective: We have assessed the use of parenteral nutrition based on criteria devised from guidelines developed by learned society. The objective of our study was to assess the use of parenteral nutrition to determine the appropriate and inappropriate use of this feeding method.
Design: Parenteral and enteral nutrition consumption data during 2017 were extracted from the economic and financial software "magh2" and used.
A prevalence survey one day of parenteral nutrition use was also carried out with data abstracted principally from patient medical records supplemented by interviews from physicians or nurses when needed. The criteria for parenteral nutrition indication relevance were analyzed (ineffective enteral nutrition, non-functional gastrointestinal tract, caloric intake, micronutrient supplementation and clinical and biological monitoring).
Results: In 2017, the additional cost incurred as result of parenteral nutrition was to 84511 euros and to 4784 euros for enteral nutrition. The most frequently prescribed was parenteral nutrition.
The day of the prevalence survey 27 patients had parenteral nutrition. The indication was relevant in only 16% of cases. In 48% of cases, the prescriptions included weight and height. In 30% of cases, caloric intake was appropriate. In 70% of cases, caloric intake was inappropriate (4% of cases higher caloric intake need and 44% of cases calorie intake below the need). Micronutrients administration was lacking in 53% of prescriptions. Weight monitoring and biological monitoring was performed in 22% of cases.
Conclusion: According to the predefined criteria, only 16% of parenteral nutrition use were considered "appropriate." We highlighted areas for improvement: to limit parenteral nutrition to patients with non-functional digestive tract or ineffective enteral nutrition and to ask more frequently the dietician opinion.
We proposed that physicians were provided with an information leaflet about the different nutrition products. Other proposals were made, such as pre-filled prescription with indication of parenteral nutrition, weight, BMI and parenteral nutrition products.

Disclosure of Interest: None Declared

PP05

PHARMACIST'S INVOLVEMENT IN THE MANAGEMENT OF SUSPECTED HEPARIN INDUCED-THROMBOCYTOPENIA

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract

Background and Objective: Heparin induced-thrombocytopenia (HIT) is an immune mediated phenomenon caused by the exposure to heparin, especially in dialysis, associated with a high risk of thrombosis. Management of patients with clinical predisposition to thrombosis was critical. As in the last year three Adverse Drug Reactions to heparin were uploaded on National Pharmacovigilance Network (RNF) by our hospital, health care professionals evaluated their decisions about diagnosis and management of suspected HIT according to American Society of Hematology (ASH) 2018 guidelines. The pharmacist in this course performs an important role in the choice and in the life-saving drug ward supplying activity.

Design: Here we described actions taken by Nephrology Unit in the diagnosis and choice of treatment of three clinical events in patients (A, B and C) with acute kidney injury, recent diagnosis of positive ANCA vasculitis and suspected HIT.

Results: Patients A and B were hospitalized with acute kidney injury and anuria so dialytic treatment was performed. Common treatments consisted in not fractioned Heparin (UFH), corticosteroid drug and Rituximab. In each case platelet count was seen to decrease to 90000/µL, so as soon as HIT was suspected, heparin was discontinued and Argatroban infusion was initiated to prevent thrombosis. In these cases, the diagnosis of Hit was made on clinical presentation through 4Ts scoring system and further confirmed by positive laboratory testing. ASH guidelines strongly recommend discontinuing UFH and suggest starting a non-heparin anticoagulant in patients with suspected HIT and an intermediate-probability 4Ts score, who have another indication for therapeutic-intensity anticoagulation.
Patient C had the same progress of A and B and followed the procedure of suspected HIT, but laboratory testing resulted negative. ASH guidelines recommend discontinuation of non-heparin anticoagulant and resumption of heparin. Also in this situation, patient management followed ASH guidelines but low molecular weight heparin was chosen after another platelet decrease during subsequent dialysis.

Conclusion: All phases of patients' management followed ASH 2018 guidelines with positive results. Treating these critical patients with Argatroban, then replaced with Warfarin, turned out to be right choice, supported by the possibility to maintain the same dosage also in renal disease, the short half-life and the liver metabolism.

Disclosure of Interest: None Declared

PP06

HIGH RISK MEDICINES: SUPPORTING PATIENTS AND PRESCRIBERS ON A NOVEL CLASS OF ORAL ANTICOAGULANTS

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Please specify your abstract type: Descriptive abstract

Background and Objective: Direct oral anticoagulants (DOACs) are a relatively new class of medicines to prevent and treat thrombus formation. DOACs are considered high risk medicines due to the potential for causing haemorrhage. Risks associated with warfarin are highlighted to UK patients using a Patient Booklet and Alert Card (PB&AC). There are no equivalent materials for patients on DOACs. Given the complexity of DOAC prescribing, the need for supporting information for patients and prescribers was identified. The objective is to develop resources to assist safe use of DOACs including a PB&AC and a Prescribing Bulletin for clinicians. This supports collaborative decision-making and self-management of patients in line with strategic vision for NHS Scotland: Realistic Medicine.
Design: A multidisciplinary group with patient representation developed the PB&AC. These were screened for patient friendly language and accessibility. This resource was distributed to all areas of NHS Greater Glasgow and Clyde. Evaluation of the PB&AC using an anonymous survey is ongoing. A prescribing bulletin was produced to aid safe prescribing. This was led by Pharmacy Medicines Information Team with Cardiology and Haematology input.
Results: PB&AC were finalised and introduced to patients via hospitals, family doctors and community pharmacies in Glasgow and Clyde. An online version of the Patient Booklet is also available. Preliminary results of the evaluation demonstrate a high level of satisfaction with 88% of respondents (n=50) stating that their overall opinion of the PB&AC is excellent or good. 100% (n=25) agree that the Patient Booklet helps patients taking their DOAC safely. Discussions are underway with NHS Improvement Scotland on how the PB&AC can be used across Scotland. The bulletin is an established resource, available to all prescribers in NHS Greater Glasgow and Clyde and well received by clinicians. It includes evidence based information, specific prescribing recommendations and case studies.
Conclusion: Pharmacists play a key role in the safe use of anticoagulants both from patient and prescriber perspectives. Initiatives such as this empower prescribers to support a proactive role of patients in their treatment and in maintaining health.

Disclosure of Interest: None Declared

PP07

ANTIMICROBIAL THERAPY IN BONE AND JOINT INFECTIONS: WHAT HAPPENS AFTER HOSPITAL DISCHARGE?

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract

Background and Objective: Bone and joint infections (BJI) management requires prolonged antibiotic therapy. Hospital care and outpatient care services should be coordinated.
This study evaluate the antimicrobial therapy (AT) in patients with BJI after hospital discharge (HD).
Design: This is a prospective observational monocentric study conducted for 2 months in an orthopedic surgery and traumatology unit. All patients with BJI suspicion are included. Antimicrobial stewardship team or surgeons chose the AT regimen. Inadequate AT is defined as any deviation from the antimicrobial stewardship advice or UpToDate® guidelines regarding dosage, preparation, administration, monitoring, precautions and duration. Evaluation is made at 4 stages of the continuum of the patients care: HD day, first week [2-7 days] post HD, follow-up visit [13-68 days post HD] and programmed end of treatment (EOT).
Results: Thirty patients were included. Average age was 61 years [28-98]. There was 90% (n=27) of implant-related infections, 80% (n=24) of acute BJI and 83% (n=25) of documented infections. An antimicrobial stewardship advice was done before discharge for 83% (n=25) patients. Most HD (n=26) were made in rehabilitation centers. Forty five AT criteria were analyzed for each patient. Average rate of inadequate AT criteria was up to 10% (n=134), mostly related to precautions and administration respectively in 43% (n=58) and 8% of cases (n=11). Thus, each patient had, on average, 4.5 inadequate AT criteria and all patients had at least one. The EOT wasn't respected for 67% patients (n=20). Antimicrobial therapy was extended by 13 days [1-37] for 12 patients, and shortened by 18 days [1-43] for 8 patients. Within six months of HD, 10 patients (33%) were re-hospitalized for worsening BJI. For 9 of them (30% of patients), the EOT wasn't respected.
Conclusion: Antimicrobial therapy management regarding duration, precautions and administration could be better. According to these results, we have implemented a pharmaceutical discharge letter, containing specific AT informations for patients, nurses and physicians. This will improve the communication with outpatient care services and limit medication errors, ensure a safe medication process and avoid unplanned re-admissions.

Disclosure of Interest: None Declared

PP08

CLINICAL-EPIDEMIOLOGICAL CHARACTERISTICS OF A SPROUT OF KLEBSIELLA PNEUMONIAE OXA 48 IS A MEDICAL-SURGICAL UCI. ANALYSIS OF 12 CASES

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract
Background and Objective: 15% of hospitalized patients are susceptible to a healthcare-related infection (HRI), especially multiresistant bacteria (MRB) with higher morbidity and mortality, such as *Klebsiella pneumoniae Oxa48*, responsible for 70% of infections.
To analyze the clinical and epidemiological characteristics of patients during an outbreak of *Klebsiella pneumoniae Oxa48* in the ICU (Intensive Care Unit) of a tertiary hospital in southern Spain.
Design: Retrospective study of 12 patients infected with *Klebsiella pneumoniae Oxa48* during September-December'18, where histories of infection or colonization by *K. pneumoniae Oxa48* were reviewed. Suspicion of colonization was confirmed by rectal swab and infections using scale qSOFA (quick Sepsis-Related Organ Failure Assessment). The variables analyzed were creatinine, leukocytes, lactic acid, respiratory rate, mean arterial pressure (mAP), GGT, GOT, GPT and hemoglobin.
Results: 83% were men with a mean age of 63 years (53-76) and infection, three were classified as sepsis and one as septic shock (need for vasoactive drugs to maintain mAP> 65 mmHg).
The average stay was 68.82 days (95% CI 40.36 to 97.28), reaching a maximum value of 156. The mean values of the main biomarkers were: Cr: 1.24 mg/dl (95% CI 0.93 to 1.54), leukocytes: $16.6x10^9$/L, Hb: 9.71 g/dL (95% CI 7.42 to 11.98), lactic acid: 4.28 mmol/L (95% CI 1.41 to 7.15), GGT: 830.3 U/L (95% CI 546.82 to 1059.77), GOT: 237.5 U/L (95% CI 119.08 to 335.91) and GPT: 120.8 U/L (95% CI 41.65 to 199.94).
Both colonized/infected patients tested positive for *Klebsiella pneumoniae Oxa48*, with an average value of days from admission to positive cultures of 7.36 days (95% CI 4.89 to 9.83).
Ten patients were sensitive to Ceftazidime/Avibactam (2g/0.5g/8h). 56% had to adjust doses due to renal function. 83% were exitus.
Conclusion: The MRB severely condition the clinical situation of patients, prolong hospital admissions and are associated with high morbidity and mortality.
It is essential to comply with hygienic-preventive measures by both professionals and family members, to prevent the spread of germs and colonization of new patients.

Disclosure of Interest: None Declared

PP09

EFFECTIVENESS OF TREATMENT AND IMMUNOGENICITY OF INFLIXIMAB AND ADALIMUMAB.

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract
Background and Objective: The introduction of anti-tumour necrosis factor alpha such as infliximab and adalimumab has improved the treatment of digestive and rheumatic inflammatory diseases. However, a percentage of these patients have anti-infliximab or anti-adalimumab antibodies that are associated with failure in treatment, causing greater morbidity and relapse of the disease.
The aim is To determine serum concentrations and immunogenicity of infliximab and adalimumab to contribute to the clinical status examination of patients and to make appropriate therapeutic decisions.
Design: We reviewed the results obtained during 1 year in 100 patients (48 women and 52 men) in treatment with infliximab (N=48) and adalimumab (N=52). To the infliximab regimen, 32 were on standard therapy (5mg/kg/8 weeks), 10 were on intensified therapy, and 6 with spaced treatment; On the other hand, for adalimumab, 36 were on follow-up standard treatment: 40mg/2 weeks, 14 were on intensified treatment and 2 with spaced treatment.
Quantification was performed after blood extraction at the prior time to infusión, by enzyme immunoassay on the AP-22 ELITE analyzer from Menarini®. Optimal concentrations were considered 5-8µg/ml for adalimumab and 3-7µg/ml for infliximab in digestive pathologies and >3µg/ml in rheumatic diseases. The anti-drug antibodies were analysed in patients with concentrations <1µg/ml for both drugs or with clinical suspicion of presence, and were reported through an index:>2 positive, 1-2 weak positive and <1 negative.
Results: The mean concentration for infliximab was 2.13µg/ml, with 10 determinations >7µg/ml, 14 between 3-7µg/ml, and 37 <3µg/ml (19 <1µg/ml). For adalimumab, the mean concentration was 5.70µg/ml, 19 with optimal levels, 14 supraoptimus and 25 infraoptimum (8 <1µg/ml). Antibodies were detected in 29 patients (20 infliximab, 9 adalimumab). Eleven patients (9 infliximab; 2 adalimumab) were positive and the drug was changed and 18 patients (11 infliximab; 7 adalimumab) were weak positive: 6 drug change, 10 intensified regimen and 2 same regimen for detecting adherence problems.
Conclusion: The therapeutic decisión, based on the patient's clinical status and the concentration of drug and antibodies, was that the drug was changed in patients with subtherapeutic levels and positive antibodies; meanwhile, in patients with subtherapeutic levels and antibodies with weak or negative positivity, treatment was intensified.

Disclosure of Interest: None Declared

PP10

A CASE REPORT OF SEVERE THROMBOCYTOPENIA BY TREATMENT WITH ENOXAPARIN.

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract
Background and Objective: Heparin-induced thrombocitopenia (HIT) is a disease caused by immunocomplexes in patients on heparin therapy with high morbimortality. This is paradoxical, as the administration of an anticoagulant could produce an elevated risk of venous and/or arterial clots. A rapid diagnosis of HIT is important to stop heparin and use alternative anticoagulants.
The aim is to describe the case of a patient who developed a severe thrombocytopenia due to enoxaparin treatment.
Design: Clinical history, laboratory tests and treatment of the patient before, during and after thrombocytopenia were reviewed and their causal relationship was studied.
Results: A 81 year-old man came to emergencies due to general malaise (fever, abdominal and lumbar discomfort, hypotension and leukocytosis). He was discharged a week ago after transcatheter aortic valve implantation. After being assessed, we decided his admission in intensive cares. He was anticoagulated with acenocoumarol and during the admission, it was replaced for enoxaparin 40mg / 24hours.
Analysis were normal except for high values in electrolytes and in renal function tests attributed to dehydration and to age respectively. Normal platelet count= 142000 / µL.
After 6 days in intensive cares, the blood test presented similar values to previous ones, except the progressive decrease of electrolytes to normal values and sudden descend on platelet count: 34000/µL. Then, we determined to suspend enoxaparin and request for anti-heparin antibodies, obtaining a positive result and confirming HIT. Anticoagulation is started with fondaparinux 5 mg/24 hours until discharge and acenocoumarol is reintroduced when oral tolerance and platelets> 100000 / µL. After 2 week, the patient´s analytical and platelet recount (256000/µL) were normal.
Conclusion: The sympthoms, the temporal relationship and the positive anti-heparin antibody test indicate that enoxaparin caused thrombocytopenia. After the suspension of the drug, the platelet count returned to normal within a few days.
HIT is an infrequent but severer adverse reaction, and therefore, in patients under treatment with heparins it is mandatory to request a blood count every two days at least for the platelet count and in supposed case of thrombocytopenia, may be able act quickly and correctly.

Disclosure of Interest: None Declared

PP11

CAPSAICIN AS TREATMENT OF PERIPHERAL NEUROPATHIC PAIN INDUCED BY ANTICANCER THERAPY

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract

Background and Objective: Peripheral neuropathic pain (PNP) following cancer treatment is common and has an impact on patients quality of life. They can be revealed by sensitive and motor symptoms. Topical treatments are part of the therapeutic strategy including the 8% Capsaicin patch which can be an interesting therapeutic alternative with limited side effects. The objective of this study is to establish a retrospective assessment of efficacity and tolerance of Capsaicin patch in treatment of PNP induced by cancer treatment.
Design: This is a descriptive retrospective study including patients from January 2016 to October 2017. We identified, from the prescription software, patients treated by Capsaicin patch. Then we've selected those who received this treatment for pain related to cancer treatment. The different data were extracted from the computerized patient file.
Results: This study included 86 patients with a male-female sex ratio of 0.2; an average age of 58 years [22-91], a total number of Capsaicin patch applications of 297 with an average number per patient of 3 [1-15]. Fifty three percent of patients had peripheral neuropathies induced by surgical management of their cancer (n = 45), 37% by chemotherapy (n = 32), 1% by radiotherapy (n = 1) and 9% by multidisciplinary management (n = 8). For 79% of the applications, the patients presented a good tolerance with or without premedication (n = 237). For 18% of the applications, patients had poor tolerance (n = 52). A better tolerance of Capsaicin patch was demonstrated when the pain was induced by chemotherapy compared to surgery ($p = 1.6\times10^{-6}$). Forty-nine percent of patients experienced significant improvement following Capsaicin patch treatment (n = 41) and 32% experienced little or no improvement (n = 27). Sixty-five patients discontinued treatment, for 40% of these patients the cause of discontinuation was inefficiency (n = 27), and 25% discontinued treatment due to treatment efficacy (n = 17).
Conclusion: This retrospective study demonstrates that treatment of PNP by Capsaicin patch is effective for half of patients. This treatment is well tolerated in the majority of applications and its side effects remain moderate, especially when the pain is induced by chemotherapy.

Disclosure of Interest: None Declared

PP12

WHAT IS THE MEDICATION IATROGENIC RISK IN ELDERLY PATIENTS WITH CHRONIC PAIN?

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Is this work original?: Yes
Please specify your abstract type: Research abstract

Background and Objective: Medication iatrogeny is a major public health problem that increases as the population ages. Therapeutic escalation to control pain and associated disorders could increase polypharmacy and iatrogeny. The aim of this study is to characterize the medication iatrogenic risk of elderly patients with chronic pain.
Setting and Method: This study was a prospective cohort study recruiting older patients with chronic pain (n=100). A pharmaceutical interview performed after a specialized medical consultation at a pain centre was conducted to collect data (e.g. clinical data, medication adherence). A medication iatrogenic assessment was performed based on the best possible medication history.
Main outcome measures: The main endpoint is the rate of patients with a medium or high level of risk calculated by the Trivalle score. The secondary judgment criteria are: the number and nature of the STOPP and START criteria, Laroche's potentially inappropriate drugs (PID), number and nature of drug interactions.
Results: The median number of medications before consultation was 8 (IQR=[7;11]). According to Trivalle's score, 43% of patients were at moderate or high medication iatrogenic risk. Before the specialized medical consultation, 79% and 75% of patients had at least one STOPP criteria and one START criteria in their orders, respectively. The median number of STOPP criteria per patient was 2 (IQR=[1;4]). One-third of orders mentioned benzodiazepine prescribed for more than 4 weeks. The median number of START criteria per patient was 1 (IQR=[1;2]). According to Laroche's list, 54% of patients had at least one potentially inappropriate medication with a median of 1 per patient (IQR=[0;1]. A combination of several anticholinergics was prescribed in 23% of patients.
Conclusion: The elderly suffering from chronic pain had many risk criteria for medication iatrogeny. Preventive measures as multidisciplinary medication review could reduce the iatrogenic risk in these outpatients.

Disclosure of Interest: None Declared

PP13

AVAILABILITY OF INFORMATION IN COMMUNITY PHARMACIES TO WARRANT CORRECTNESS OF NOAC DOSAGES

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract

Background and Objective:
Guidelines recommend individualized dosing of non-vitamin K oral anticoagulants (NOACs) based on prescription indication and patient measures (renal function for all NOACs and body weight for apixaban and edoxaban). Guidelines on NOACs recommend prescribers to share indication and renal function measures with the pharmacist. The objectives of this study were to assess whether sufficient information is readily available for community pharmacists to assess correctness of NOAC dosage in individual patients and whether additional information provided by the general practitioner (GP) is needed in order to do so.
Design: Cross-sectional pilot study in three community pharmacies and one GP practice in the Netherlands without linkage of their computerized systems. Prevalent NOAC users in October 2018 were identified by dispensing data of the three community pharmacies, for one GP practice. Information was collected on indication, renal function measures within the previous 6 months and body weight. Missing information to assess the correctness of NOAC dosage in the pharmacy system was collected from GP patient files. Data were analysed by descriptive statistics in Excel.
Results: 108 prevalent NOAC users were identified, mean age 74 (range 19-96), 55% women. The pharmacy system yielded information on recent renal function measures in 26 (24%) patients. In 32 (30%) patients this information was present at the start of NOAC treatment. For none of the patients information on indication or body weight was available, impeding the assessment of correct NOAC dosage. Additional information from the GP system enabled the assessment in 96 (89%) patients. For 12 (11%) patients information on recent patient measures (9), indication (1) or both (2) was lacking in both the pharmacy and GP systems. Of 96 patients with sufficient information, 79 (82%) received guideline adherent dosages, 11 (11%) too high and 6 (6%) too low dosages.
Conclusion: Information on parameters needed for individualized dosing of NOACs is insufficiently available for community pharmacists. A substantial amount of NOAC users is at risk to be either under- or overdosed. This study highlights the need to share information on indication and patient measures and its potential in contributing to safe and effective use of NOACs.

Disclosure of Interest: None Declared

PP14

EXPLORATION OF DIFFERENT METHODS TO CALCULATE ADHERENCE BY MEANS OF REFILL DATA BEFORE AND AFTER A MEDICATION REVIEW

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Is this work original?: Yes
Please specify your abstract type: Research abstract
Background and Objective: Medication review (MR) is a widely accepted approach known to have potential impact on adherence. However, this pharmaceutical care service is not yet available and reimbursed in Belgium.
During the SIMENON study, pharmacist conducted an intermediate MR in primary care. Adherence was considered a secondary outcome. In order to attain the most realistic adherence estimation by means of refill data, different calculation methods and assumptions were tested on a subpopulation.
Setting and Method: Between December 2016 and May 2017, 56 community pharmacies across Belgium participated in a pilot project and performed a MR type 2a for aged polymedicated patients. A before-after design was used to measure the impact on adherence as a secondary outcome by means of Proportion of Days Covered (PDC) on refill data.
46.349 refill data of 313 patients were cleaned. The resulting dataset of 9.734 refill data of 272 patients (avg 36 refill data/patient and 4,5 ATC classes/patient) was used to test different methodologies with double carry over of stockpiled medication before baseline period and before intervention period. We tested fixed observation windows of 7 months vs 9 months as well as variable windows, only starting at first delivery or ending at last delivery. Moreover, we tested the assumption that the chance of no intake on a given day is evenly distributed over the whole period between two refill dates instead of the more conventional 100% adherence until falls out of stock.
Main outcome measures: PDC (proportion of days covered) and DPPR (daily polypharmacy possession ratio)
Results: The average PDC “per ATC class for each individual patient” significantly augments after the intervention in all methods. The difference ranges from 7% to 12,9% depending on the length of the observation window and the assumption of counting with a spread of medicine-intake over the whole period between 2 refill dates.
Conclusion: This exploration of methods for adherence calculation provides insights in the importance of choosing a suitable method and in the potential added value of a MR in the community pharmacy. The most realistic method will be used on the final dataset.

Disclosure of Interest: None Declared

PP15

INTRODUCTION OF A MEDICATION RECONCILIATION PROGRAM IN HOSPITAL ADMISSION IN SURGICAL SERVICES

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract
Background and Objective: To implement a medication reconciliation program upon admission in surgical patients to reduce medication errors during healthcare transitions, and evaluate the results obtained after its implementation.

Design: Observational prospective study carried out between October 2017 and September 2018. Patients older than 65 years who received at least 5 drugs with more than 24 hours of admission in the General Surgery Unit were included. Variables considered: age, sex, number of prescribed drugs and medication errors (ME). The best pharmacotherapeutic history was developed, including diagnosis, medical history, allergies/intolerances, and complet list of chronic home medication, consulting the electronic history and APD-Prisma® (program of electronic prescription)and electronic recipe. This information was completed with the interview with patient/caregiver.
We validated the electronic prescription, communicating to the prescribing physicians those discrepancies that needed clarification, verbally or through the internal messaging of APD-Prisma®, and resolving the discrepancies detected.

Results: 384 reconciliated patients. Median age: 74 years (66-83). 55,21% were male. 80 patients had a registered allergy. A total of 3023 drugs were reconciliated, finding a total of 995 discrepancies(32,91%). Of these discrepancies, 433 (43,51%) were justified, while 562 (56,49%) were classified as unjustified or ME. The most frequent ME were: omission (91,52%), dose (3,38%), posology (3,2%) and therapeutic duplicity (1,9%).
Of those 562 ME , the intervention of the pharmacist was accepted in 465 (46,73%) and the discrepancy was corrected (in 455 (97,85%) of them it was corrected before 24 hours, and in 10 (2,15%) after more than 24 hours). The communication with the doctor was carried out by electronic messaging in 75% of the cases and by direct oral route in 25%. Considering the ATC classification, the groups most frequently involved in ME were cardiovascular system, specifically the agents that act on the renin-angiotensin system (17.65%) and diuretics (8.82%).

Conclusion: The data of our study coincide with those obtained in other similar published reports, which reinforces the role of the pharmacist as a key element in the reconciliation of medication upon admission to surgical services.

Disclosure of Interest: None Declared

PP16

ABSENCE OF RESPONSE TO THE TREATMENT WITH CICLOPHOSFAMIDE IN VASCULITIS OF CENTRAL NERVOUS SYSTEM: A CASE STUDY

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract

Background and Objective: Primary vasculitis of Central Nervous System (PVCNS) is a unusual type of vasculitis, of which there are very few studies about its treatment. The combined treatment with corticosteroids and cyclophosphamide has a better prognosis. We present the case of a patient diagnosed with PVSNC treated with cyclophosphamide.

Purpose: To analyse the response of a patient with PVCNS to treatment with cyclophosphamide and corticosteroids.

Design: Male, 38 years old, admitted to the Intensive Care Unit (ICU) for intraparenchymal hemorrhage with hypertensive emergency. Variables collected: sex, age, diagnosis, pharmacological treatment, dose and duration of treatment with cyclophosphamide.

Results: Analytical and autoimmunity studies, magnetic resonance and angiography confirmed the diagnosis of PVCNS. Despite treatment with several antihypertensive drugs, the patient continued with hypertension. Treatment with high dose corticosteroids was started (1g/24h for 3-5 days). After the absence of response, treatment was started with cyclophosphamide 1000 mg/m² every 4 weeks. After 3 days , the patient presented neutropenia secondary to the treatment, complicated by an infectious process. Cyclophosphamide was temporarily suspended. The second dose of cyclophosphamide (600 mg / m²) was administered at 6 weeks. This time without any indication of secondary neutropenia. In cranial CT there was no improvement compared to the previous one.
Discussion
There are no controlled studies of therapy to establish which is the best treatment. In the authors' experience, a 6-month period is a preferable duration of cyclophosphamide. Some clinicians opt for a maintenance therapy with azathioprine or mycophenolate mofetil, citing such an approach in other systemic vasculitis (1-2). In our patient the treatment with Cyclophosphamide was not prolonged due to the poor response obtained. Currently the patient continues in a coma, and given the severity of the injuries, the recovery prognosis is very low.

Conclusion: In this case, the treatment of PVCNS with cyclophosphamide and corticosteroids has not been effective. The incidence of adverse effects was high, reducing with lower doses of cyclophosphamide. Due to its potential toxicity, it is convenient to individualize its administration. More longitudinal studies are needed to accurately characterize the response to therapy in patients with PVCNS.

Disclosure of Interest: None Declared

PP17

SUMMARY OF PHARMACEUTICAL INTERVENTIONS PERFORMED BY A CLINICAL PHARMACY TEAM IN A SURGICAL INTENSIVE CARE UNIT

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract

Background and Objective: Following the Anglosaxon successes of Clinical Pharmacy in intensive care, the activity develops only timidly in France. A team consisting of a pharmacist and an intern was deployed within the surgical intesive care unit (ICU) in order to perform a thorough pharmaceutical analysis as well as reduce prescription errors, adverse events and costs associated with the patient's medication management. The objective of the study is to evaluate the Pharmaceutical Interventions (PI) produced after one year.
Design: All prescriptions are analyzed by this team, within the department, every working day, in direct and permanent contact with patients and prescribers. The prescription software is Clinisoft®. All PI are listed in Act-IP®.
Results: 1173 PI were carried out over one year for a total number of stays of 985, representing one third of all PI in our establishment. The average age of patients with at least one PI is 64.7 (± 14.9) years. The accepted PI rate is 93.95% for a refusal rate of 5.3% (of which 24% refusal on a clinical argument, 18% on a discontinuation of the therapy and 11% on a biological argument). All PI are discussed and passed on orally to the prescriber. 14% of PI are Piperacillin / Tazobactam, 10% Vancomycin, 5% Cefepime, 4% Meropenem, 4% Imipenem, 5% Ceftazidime, 3% Amoxicillin / Clavulanic acid, 3% Tramadol, 3% Zinc gluconate, 3% Oxycodone, 2.5% Cefotaxime, 2.5% Enoxaparin sodium and 2.5% Thiamine. The most found ATC classes are J (Antiinfectious, 69%), B (blood and hematopoietic organs, 18%), N (nervous system, 15%) and A (digestive and metabolic pathway, 13%). The non conformities to the reference standards and the contraindications represent 26.5% of the PI, the overdoses 21.5% and the requests for pharmacological therapeutic follow-up 20%. This results in 40% of dosage adjustments, 21% of substitutions and 19% of therapeutic discontinuation. Regarding the economic impact, we reduce costs in 40% of cases and we increase them in 34%. The number of PI completed before our presence in the service was less than 50 per year.
Conclusion: Our physical presence in the service has enabled us to achieve a significant number of IP per stay (1.7 IP / stay, 5875 days of hospitalization) with an excellent rate of acceptance of IP (> 90%). This may be correlated to an increase in the relevance of our PI to prescribers but also to an increase in the prescriber's confidence in the pharmacist due to, among other things, the pharmacist's availability in the service. Almost 70% of PI are infectiology which is a critical point in the evolution of the patient in intensive care.
Our goal is to continue to create or modify the service protocols in order to definitively solve the detected problems in order to focus on the resolutions of other undesirable events, as well as to extend to all our ICU.

Disclosure of Interest: None Declared

PP18

PROTOCOL OF DESENSITIZATION AFTER ALLERGIC REACTION TO ALPHA ALGLUCOSIDASE : A CASE REPORT

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract

Background and Objective: Hypersensitivity is a common side-effect of biotherapies, and desensitization protocols are developed to counteract this problem. Alpha-alglucosidase (Myozyme®) (AAG) is the only specific available treatment for treating Pompe disease (PD). In our hospital, a patient receiving AAG infusion triggered a hypersensitivity reaction, which led to a need to adapt her treatment.
A specific AAG desensitization protocol has been defined for this patient; therapeutic management, efficacy and safety have been assessed.
Design: AAG had a beneficial effect with stabilization of symptoms since its introduction, but has generated an allergic reaction, with a risk of interrupting the treatment. A desensitization infusion protocol was defined and reconstituted at the pharmacy. Efficacy of AAG on respiratory and motor function has been followed.
Results: A 70-years-old woman was diagnosed for PD in 04/2015, with a pelvic girdle myopathy for 10 years resulting in gait trouble.
The treatment by AAG, started in 11/2015, led in 12/2016 to a generalized superficial urticaria, edema of fingers and uvula, rhinorrhea, tearing and dysphonia.
Long-term antihistamines and antileucotriens, with implementation of the dose the 3 days before and after the infusion, and corticosteroid on the infusion day, were effective until 04/2018, when urticaria appeared again. A desensitization infusion protocol was started, consisting in a 10-step protocol, with 3 solutions at respectively 0.037 mg/mL, 0.37 mg/mL and 3.7 mg/mL (1). Each step, except the last one, lasts 15 minutes, for a total infusion time of 25 hours. Flow rate was increased at each stage until 12 mL/h. Antihistamines were administrated every 6 hours.
After 6 months of desensitization, the patient remains stable, with no respiratory failure and motor improvement (for instance, 6 minutes-walk test 500 meters vs. 355m at the beginning). She still has a well-tolerated localized urticaria during AAG infusion.
Conclusion: Implementation of this protocol allowed maintenance of the administration of this treatment. Thanks to these adaptations, she has no respiratory affection 3 years later and has an improvement of her gait and other motor functions.

Disclosure of Interest: None Declared

PP19

ISAVUCONAZOLE: WHICH PRESCRIPTION PROFILE IN A UNIVERSITY HOSPITAL DEDICATED TO HEMATOLOGY?

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract

Background and Objective: Isavuconazole (ISZ) has marketing authorization (MA) for aspergillosis as first-line treatment and mucormycosis as second-line therapy.ISZ may have less drug-drug interactions and hepatic side effects than other triazole anti-fungals. Due to this profile, the number of ISZ prescriptions increased since its availability in our institution.
The main objective of the study was to determine the profile of patients for whom ISZ was prescribed in our hospital. The secondary objectives were to analyze the proportion of indications corresponding to the exact terms of MA and the off labelled indications.
Design: The assessment of ISZ prescriptions from 2016 to 2018 was carried out retrospectively by collecting data from the patient files and by retrieving antifungal prescriptions data from the pharmacy. All inpatients with an initiation of ISZ in our hospital were included.
Results: Over the study period, ISZ prescriptions concerned 39 patients (20 males and 19 females), 21 had underlying hematologic pathology (mostly acutemyeloid leukemia and myelodysplastic syndrome). The median age was 58 [22; 77] years. The ISZ declared indications were aspergillosis for 17 (43.6%) patients, mucormycosis for 14 (35.9%) patients and off labelled indications for 8 (20.5%) patients. In 6 (15%) cases, physicians declared aspergillosis while ISZ was really used in prophylaxis (5 primary and 1 secondary); indeed physicians prescribed ISZ when posaconazole or voriconazole seemed to cause side effects or drug-drug interactions. Regarding off labelled indications, ISZ was prescribed in 5 cases for a primary prophylaxis in patients with hepatic disorders or with history of hepatic toxicity caused by another triazole. In 2 patients, ISZ was chosen to prevent drug-drug interactions with voriconazole and immunosuppressive drugs (sunitinib and tacrolimus). ISZ was prescribed once for a patient with an echinocandin resistant*Candida glabrata candidemia*. In total, ISZ was prescribed 14 (35.6%) times in an off labelled utilization.
Conclusion: The proportion of incorrect declarations and off labelled prescriptions was presented at our local infectiology committee to sensitize physicians to ISZ MA indications. This study encouraged us to lead a prospective study to compare the efficacy and tolerance of ISZ with other azoles in real life.

Disclosure of Interest: None Declared

PP20

ANTICOAGULANT USE PATTERN AMONG DIFFERENT INTERNAL MEDICINE DEPARTMENTS IN PATIENTS WITH PULMONARY EMBOLISM

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Is this work original?: Yes
Please specify your abstract type: Research abstract
Background and Objective: Anticoagulant therapy is a cornerstone of treatment of pulmonary embolism(PE). Anticoagulants dose should be adjusted to the patient's renal function and body weight. Availability, preferences and use pattern of different anticoagulants theoretically could vary among different clinical centres. The aim of this study is to compare anticoagulant choice and use patterns in patients with PE in two Internal medicine departments in single medical centre.
Setting and Method: Inclusion criteria of this retrospective longitudinal study: adult patients with acute pulmonary embolismPE(ICD I26) hospitalised at the cardiology(CD) or pulmonology(PD) departments; anticoagulant therapy ≥2 days.
Main outcome measures: Anticoagulant dose adjustment to body weight, renal function or INR.
Results: 98 cases have met of including criteria. 77(79%) patients were from CD and other from PD. Low-molecular-weight-heparins (LMWH) were used in 85(87%) cases. At CD the LMWH of choice was enoxaparin (59 (90.8%) cases) and at PD – nadroparin (14 (70%) cases). Data about patients' weight was available only in 17(17%) cases and from them 13 patients were on LMWH therapy. Analysis of this study subgroup revealed that patients with lower body weight tended to receive higher doses of LMWH that is recommended by the manufacturer and obese patients – lower doses. At CD warfarin therapy was started earlier in comparison with PD: the median (Q1;Q3) day of initiation of warfarin use was 2.0(1.0;3.5) and 7.5(5.6;9.3) days, respectively,($p=0.001$). Also, at CD more patients were discharged from hospital with reached target INR of 2-3(7 patients at CD vs 1 patient at the PD). Also, the median duration of warfarin therapy was longer at CD than at PD (6 and 3.5 days ($p<0.001$), respectively). Direct oral anticoagulants were the most commonly recommended anticoagulant on discharge at both departments. Rivaroxaban was more often recommended than dabigatran- n=33 (43%) and n=11 (14.3%), respectively.
Conclusion: Anticoagulant use pattern varies a lot between departments of single medical centre. There is a potential for introduction of clinical pharmacy service with aim to rationalize anticoagulant therapy, e.g. for checking of LMWH doses according to patient weight and renal function, as well to promote earlier initiation of oral anticoagulant use during hospitalisation.

Disclosure of Interest: None Declared

PP21

EFFECTIVENESS AND TOLERANCE OF ORAL MELATONIN PREMEDICATION IN SLEEP ABR IN PAEDIATRICS

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Is this work original?: Yes

Please specify your abstract type: Descriptive abstract

Background and Objective: The early diagnosis of deafness in newborn and infants is performed using auditory brainstem responses (ABRs). For this exam, quiet sleep is essential but is often difficult to obtain with young children. Oral melatonin, a physiological sleep-inducing hormone, has been successfully used to induce sleep prior EEG recording (1), without the risk of sedation.

The objective of this work was to evaluate the efficiency and safety of melatonin as premedication in ABR with children.

Design: The methodology used is the outcome of a collaboration between ENT and Pharmacy department in order to produce an oral melatonin preparation, to inform parents and children, to collect data during the ABR, to monitor the safety 48 hours after administration, and to analyze data.

All patients received oral melatonin, depending on their weight: less than 10 Kg: 2 mg, between 10 and 20 Kg : 5 mg and more than 20Kg: 10 mg.

Results: From May 2018 to January 2019, 32 patients (13 girls and 19 boys) were monitored after melatonin administration before a sleep ABR. Mean age was 2.2 years old (range: 71 days - 10 years old). Sleeping rate was up to 78.1%. The average time to fall asleep was 23 ± 13 minutes (10-62 minutes). Sleep duration was 37 ± 18 minutes (15-90 minutes). Thus, it was satisfying despite an important proportion of spontaneous awakening (96%), bearing in mind that 53% of these children did not suffer from sleep deprivation the night before. Moreover, ABR's quality was satisfying in more than 70% of cases.

We also observed side effects just after the ABR (2 children were irritable and one children was sleepy) and within 48 hours following the administration (5 children were sleepy, and one child had headaches and was irritable).

Conclusion: The study shows a real efficiency of oral melatonin in sleep induction in children with a period and duration compatible with the ABR. No serious adverse effects were noted but some drowsiness within 48 hours following the exam were observed and now parents will be warned.

These results are comparable to the studies found in the literature (2).

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Disclosure of Interest: None Declared

PP22

PERCEPTION AND KNOWLEDGE OF AMBULATORY PATIENTS REGARDING VITAMIN K ANTAGONISTS

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Is this work original?: Yes
Please specify your abstract type: Research abstract

Background and Objective: Oral anticoagulation (OAT) with vitamin K antagonists (VKA) are widely prescribed for the prophylaxis and treatment of many thrombo-embolic disorders. The iatrogenic effects of vitamin K antagonists (VKA) represent a public health problem. Disregard by patients of the basic rules regarding their treatment is a major risk factor for both bleeding episodes and thrombotic recurrence. The aim of this study was to assess patient knowledge about OAT and factors associated with patient knowledge.
Setting and Method: We conducted a descriptive cross-sectional study of 84 patients treated with acenocoumarol in three clinics external pharmacies over a period of three months. Patients were interviewed using a questionnaire containing 23 items assessing the various aspects of anticoagulant therapy.
Main outcome measures: The data was analyzed using SPSS software version 20.0. The test used was the chi-square test to study the correlations between variables. The threshold of significance was set at p less than or equal to 0.05
Results: Overall 29% of patients do not have the basic knowledge in the field of cognitive knowledge and only 2% have the minimum knowledge in the field of knowledge, 87% did not know what blood test is used to monitor the effectiveness of their treatment, 81% did not know the value of their target INR, only 57% knew the clinical signs of overdose , only 2% of patients knew how they manage their missing dose, 52% of patients did not know the interaction between acenocoumarol and aspirin, 90% did not know the possible food interactions. In univariate analysis, three predictive factors are related to insufficient knowledge in the field of cognitive knowledge: age> 65 years ($p<0.001$), lower education level ($p=0.004$) and dependence in the management of treatment ($p<0.001$). In the behavioral field, only the low level of education seems to influence the level of knowledge of patients ($p=0.023$).
Conclusion: Level of patients' knowledge about the oral anticoagulant treatment was very low among our outpatients. So, it seems very appropriate to develop special anticoagulant clinics in Tunisia.

Disclosure of Interest: None Declared

PP23

PHARMACEUTICAL TEAM IN SURGERY UNITS : OUR IMPACT AFTER 2 YEARS OF IMPLEMENTATION

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Is this work original?: Yes
Please specify your abstract type: Research abstract
Background and Objective: Since November 2016, a clinical pharmacy team (CPT) made up of one pharmacist, one resident and two students is present in the digestive and urological surgery units (DUS, 84 beds) of the Nantes University Hospital (France). CPT's missions included medication review (REV),
therapeutic optimization, and medication reconciliation (REC) that could lead to PIs.
The objective of our study was to assess the CPT's impact evolution on the number of pharmaceutical interventions (PIs) and on medication costs trends in DUS after 24 months.
Setting and Method: In January 2017 and January 2019 all PIs made were registered and analysed.
In parallel, medication annuals costs were valued and correlated to the number of hospitalizations in the units in 2016, 2017 and 2018. These data derived from the financial and activity reports of the hospital.
Main outcome measures: Evolution of PIs & medication expenditures.
Results: In January 2017, 412 patients were hospitalized in the DUS, and 11% (48) benefited of a PI. In January 2019, 30% (107) of the hospitalized patients (n=359) received a PI. The total number of PIs registered in January 2019 was 1.78 times higher than in January 2017 (211 vs 118). While PIs made in 2017 were focused on REC (89.8%), the proportion of PIs made around the REV increased in 2019 (23%). In the subgroup of unplanned patients, PI related to REV raised up to 31% (132) in 2019. 99% of PIs were accepted by the prescriber and led to a prescription modification in 2019 ; criterion was not valued in 2017.
In 2017 the annual medication expenditures weighted by the activity decreased by 30% (-105 506€) compared to 2016, and then stabilized in 2018 (+ 5%).
Conclusion: CPT's expertise is improving with better knowledge of the DUS patients' specificities. This allows a decrease of medication expenditures that can be explained through many activities like appropriate use of medication, stopping non-daily treatment, or encouraging oral route.
Furthermore the increase of the services provided was objectified by a satisfaction survey from care givers. This study should be consolidated by a satisfaction survey from patients.

Disclosure of Interest: None Declared

PP24

THE USE OF ANALGESICS AND ANTIPYRETICS FOR THE MANAGEMENT OF FEVER AND PAIN IN CHILDREN: HEALTHCARE PROFESSIONALS' VIEWS AND PERCEPTIONS

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Is this work original?: Yes
Please specify your abstract type: Research abstract

Background and Objective: Antipyretics and analgesics are commonly used medications for the management of fever and pain in the paediatric age group.
To explore healthcare professionals' (physicians, nurses and pharmacists) views, perceptions and professional experiences of medication errors and Adverse Drug Reactions (ADRs) related to the use of analgesics/antipyretics in children.
Setting and Method: A cross-sectional survey of two hundred healthcare professionals participated and completed the study questionnaire in four major paediatric hospitals in Jeddah City, in the Kingdom of Saudi Arabia.
The questionnaire was developed from several sources including recent studies of medication errors and ADRs conducted by members of the research team. It included the following items: views, perceptions and personal experiences; contributory and causative factors of ADRs and medication errors.
Main outcome measures: i) Healthcare professionals' views, perceptions and professional experiences surrounding medication errors and ADRs related to the use of analgesics and antipyretics in children.
ii) Reported ADRs and medication errors in relation to analgesics and antipyretics and their outcomes.
iii) Explore any contributory and causative factors of medication errors and ADRs related to the medications under study.
iv) Triangulate all data to generate recommendations to promote patient safety in relation to analgesics and antipyretics among paediatric populations.
Results: The vast majority of the participants believed that antipyretics/analgesics are effective in the management of fever (98%) and pain (94.5%). Twenty-six respondents (n=26, 13%) reported having witnessed adverse drug reactions in children in the past three months and (n=29, 14.5%) medication errors, a number of which had resulted in patient morbidity or mortality. Respondents reported vomiting, abdominal pain, rashes and hypothermia and linked them to these medicines. The majority of respondents believed that adverse drug reactions (n=22, 84.6%) and medication errors (n=166, 83%) could be further minimised.
Multiple factors were perceived by healthcare professionals as contributing to the adverse effects of analgesics/antipyretics including: a parental lack of knowledge (n=162, 81%); the easy availability of these medications at home (n=153%, 76.5%); parental anxiety leading to over medication (n=137, 68.5%) and healthcare professionals' insufficient training/experience (n=110, 55%).
Conclusion: Healthcare professionals perceived that adverse drug reactions and medication errors, related to the use of analgesics and antipyretics in children, were due to the lack of parental knowledge surrounding these medications and the easy availability of these medications at home which were also attributed as the key factors in the occurrence of these issues.

Disclosure of Interest: None Declared

PP25

PUBLIC AWARENESS OF MISUSE OF MEDICINES

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Is this work original?: Yes
Please specify your abstract type: Research abstract
Background and Objective: Misuse of prescription and over-the-counter (OTC) medicines is a global health issue associated with morbidity and mortality.
To explore public awareness of the prevalence of misuse of medicines in Jeddah city, Kingdom of Saudi Arabia.
Setting and Method: A cross-sectional, community-based survey was conducted on August 2017, during a local campaign held at two malls in Jeddah city, Kingdom of Saudi Arabia, for three consecutive days. An online questionnaire was developed comprising 12 items related to misuse of medicines. Participants were invited to either fill in the questionnaire by themselves or were assisted by a researcher who filled it in on their behalf.
Main outcome measures: To assess the degree of medicine misuse in children and adults and the types of commonly misused medicines in Jeddah City, Kingdom of Saudi Arabia
Results: Five hundred and eleven participants completed the questionnaire. The study revealed that 256 (50.1%) of participants adhered to physicians' prescriptions when using medicines, 196 (38.4%) used medicines occasionally with prescription and 59 (11.5%) used medicines without prescription. Most participants (n= 475, 93%) believed that they should adhere to their physician’s instructions when taking medicines. Ninety-six of them (18.6%) experienced adverse effects when using medicines without prescription. Two hundred and eighty-two participants (55%) had witnessed the misuse of medicines by others. Of the participants who witnessed the misuse of medicines, 199 (39%) reported that it led to minor adverse effects, 96 (18.8%) reported that it led to a hospital visit or admission and 31 (6%) reported that it led to either fatality (n=14, 2.7%), addiction (n=12, 2.3%) or disability (n=5, 1%). Analgesics and antipyretics (n= 408, 80%) followed by antibiotics (n=57, 11.2%) were the most common medicines used without a prescription.
Conclusion: Misuse of medicines is common in Jeddah city, Kingdom of Saudi Arabia. A significant proportion of the participants who misused the medicines have reportedly been affected by adverse effects.

Disclosure of Interest: None Declared

PP26

THE PREVENTABILITY OF ADVERSE DRUG REACTIONS WITH ORAL ANTICOAGULANTS: A STUDY IN AN INTERNAL MEDICINE DEPARTMENT OF AN ITALIAN HOSPITAL.

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Is this work original?: No
Abstract submitted before to: XXVII Seminario Nazionale. La valutazione dell'uso e della sicurezza dei farmaci: esperienze in Italia. ISTITUTO SUPERIORE DI SANITÀ
Please specify your abstract type: Research abstract
Background and Objective: In Randomized Clinical Trials, oral anticoagulants, both vitamin K inhibitors (VKAs) and direct anticoagulants (DOACs) have proven to be useful in preventing and treating thromboembolic diseases. A retrospective cohort study was conducted for one year in the Medical ward of the Vimercate Hospital to identify patient characteristics with Adverse Drug Reactions (ADRs) from anticoagulants.
Setting and Method: Among the hospitalized patients between November 1, 2015 and October 31, 2016, patients admitted in Internal Medicine departments were selected. Patients with ADR from anticoagulants were identified.
Main outcome measures: The aim of the study was to evaluate the incidence of anticoagulants serious adverse drug reactions conditioning hospital admission, the percentage of preventable reactions and the determinants of those.
Results: In the period included there were 2064 admissions in the departments of Internal Medicine. 102 eligible patients were identified (4.9%); of these 48 were females, 54 males. The average age was 81.9 (from 60 to 95 years). Out of 102 cases, 68 used VKAs and 34 DOACs (14 apixaban, 12 dabigatran and 8 rivaroxaban). The admission diagnosis was cardiac failure following anemia or hemorrhage (56 cases), in 29 acute hemorrhage, sometimes not associated with anemia; in 17 anemia not associated with hemorrhage.
The risk of bleeding during therapy with VKAs, analyzed with the HAS-BLED score showed that 65 out of 68 patients had a score >3, which correlates with a high risk of major bleeding. For DOACs, we use the criteria of major interactions and of creatinine clearence < 30 ml/min. Overall, the 96% of ADRs with VKA was preventable, and the 68% of ADRs with DOACs too. The two rates are not comparable, due to the different criteria used.
Conclusion: This study highlights the large percentage of adverse reactions from oral anticoagulants that can be avoided with more careful patient management. A clinical picture of cardiac failure often anticipates the signs of hemorrhage/anemia; cardiac function must be monitored in these patients. Beyond the monitoring of therapy in patients treated with VKAs, it has to be stressed the importance of periodic controls of blood count and renal function in patients taking DOACs, especially in the oldest patients.

Disclosure of Interest: None Declared

PP27

SECURING IMMUNOGLOBULIN SUPPLY IN PRIMARY IMMUNODEFICIENCY AS A PRIORITY INDICATION: PATIENT'S CARE PATHWAY APPROACH

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract

Background and Objective: Immunoglobulins (Ig) (intravenous (IV) and subcutaneous (SC)) are regularly subjected to severe supply disruptions all over the world. Management by physicians, pharmacists, patients, health authorities and pharmaceutical companies is difficult: patient dispersion on the territory, diversity of delivery sources, lack of a global approach or reallocation procedures... According to French health authorities, Ig dispensations must be secured for priority indications as substitutive treatment in primary immunodeficiencies (PIDs) (prevalence about 1/5000 persons in France). The objective was to carry out an inventory of patients with PID and their Ig needs to insure that these patients will not experience shortage.
Design: This 6-month (from January to June 2018) multi-centre retrospective study was conducted in 3 French University hospitals. All patients with PID who received Ig dispensation were included. Dispensations were performed both for inpatients and outpatients (retrocession). For each Ig dispensation, data were collected: gender, age, weight, dispensation context (retrocession, conventional, day hospitalization), indication, prescriber, brand name and quantity of the medicine dispensed, reason of switch if any. Results are presented as a mean ± standard deviation or a percentage.
Results: Of the 361 patients included (gender-ratio M/F 0.8, mean age 45 ± 20 years), 34 were paediatric. The mean weight was 62 ± 19 kg (weight not reported in 31% of dispensations). 59% had a variable common immune deficiency, 15 % a hypogammaglobulinemia, 10% a combined immune deficiency or 8% an agammaglobulinemia. For the study patients followed by 58 prescribers, 2,082 dispensations were performed, 1,124 for outpatients, 860 in day hospitalization and 98 in conventional hospitalization. 9 different Ig medicines were dispensed (6 IV; 3 SC). The overall Ig volume was 57 kg (50% IV; 50% SC). 108 switches were identified whose causes were mainly supply tensions (68%), change of administration route (19%) and new drug (7%).
Conclusion: This study, using an innovative patients' pathway approach, allowed a review of Ig dispensations carried out in 3 University hospitals. Despite PID being one of the highest priority group, situations of supply tensions were reported. Data search highlighted the difficulty to obtain an exhaustive vision of patient pathways: dispensation outside University hospitals, outdated list of prescribers, list and data of patients not updated by prescribers.... Data analysis of the whole cohort of patients, by including patients who get access to Ig therapy outside of the University hospital pharmacies, could complete this study. In the perspective of sustainable international supply disruptions, a multi-stakeholder approach focusing on the patient pathway could be interesting to ensure patients Ig needs.

Disclosure of Interest: None Declared

PP28

PLACE OF ADHERENCE AND KNOWLEDGE ABOUT TREATMENT TO PRIORITIZE PHARMACEUTICAL INTERVIEWS IN PATIENTS TREATED WITH ORAL ANTICOAGULANT

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract

Background and Objective: CHA_2DS_2-VASc and HAS-BLED scores stratify the risk of thromboembolic and bleeding events in patients with atrial fibrillation. They are useful for identifying patients treated with oral anticoagulant with high risk to develop iatrogenic effects, but these scores are only based on clinical and biological characteristics and do not include the patient's level of adherence or knowledge.
The aim of this study was to evaluate the adherence and knowledge of patients treated with oral anticoagulant (vitamin K antagonist: VKA or non-VKA oral anticoagulant: NOAC) in order to help prioritizing pharmaceutical interviews.
Design: A four week prospective study was conducted in an university hospital, including all patients treated with oral anticoagulant in the Cardiology department (52 beds). For each patient: bleeding risk (high risk if HAS-BLED >3/9) ; thromboembolic risk (moderate-high risk if CHA_2DS_2-VASc ≥2/10) ; adherence to treatment (nonadherence if <6/8 according to Morisky Medication Adherence Scale-8: MMAS-8); knowledge about oral anticoagulant therapy (insufficient if <4/5 correct answers) were evaluated.
Results: A total of 51 patients were included, with mean age = 74 years [47; 96] and sex ratio = 4.1. Nineteen patients (37%) were treated by VKA and 32 patients (63%) by NOACs. The indication for anticoagulation therapy was atrial fibrillation for 84% of patients.
Thirty-five patients (69%) had a major thromboembolic risk and 2 patients (4%) had a major bleeding risk. Twenty-four patients (47%) had insufficient knowledge about their treatment, including warning signs of bleeding and what to do if they miss a dose of anticoagulant. Six patients (12%) were non-adherent, 2 of them started their treatment recently (< 1 month).
Among the 2 patients with major bleeding risk, one patient had no knowledge about his treatment but both patients were adherent. Among the 35 patients with major thromboembolic risk, 30 had insufficient knowledge about their treatment and 4 were non-adherent.
Conclusion: In our study, almost half of patients treated with oral anticoagulant have insufficient knowledge about their treatment. About 9 patients /10 appear adherent, but a reporting bias cannot be ruled out when completing the Morisky scale. That's why these two criteria, in addition to CHA_2DS_2-VASc and HAS-BLED scores, will be included in a new global score in order to prioritize patients for pharmaceutical interviews. These score will be submitted to validation by a group of experts and tested on a new cohort.

Disclosure of Interest: None Declared

PP29

ELECTRONIC PRESCRIBING RESOURCES: HOW TO INFLUENCE THE USE OF ANTICOAGULATION WITH KNOWLEDGE AT PRESCRIBERS' FINGERTIPS

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Is this work original?: No
Abstract submitted before to: Federation of International Pharmacists Conference 2018
Please specify your abstract type: Descriptive abstract

Background and Objective: NHS Greater Glasgow and Clyde (NHSGGC) supports clinicians with multiple ways to access prescribing guidance. This includes the Therapeutics Handbook (TH) website and mobile app, an innovative resource widely used by prescribers which contain over 200 guidelines, including a number of guidelines related to anticoagulation prescribing. The TH is used across nine acute hospitals and is accessed on average once every minute, 24/7. The way guidance is presented in the TH impacts on how recommendations are translated in to practice. The purpose of this project is to demonstrate the impact the presentation of guidelines in the TH has on clinical practice in one specific high risk therapeutic area: use of bridging heparin in the management of warfarin patients following surgery.
Design: The adherence to prescribing guidance in the TH in 2014 relating to the management of warfarin patients post-operatively was audited. The results led to changes in how the guideline was presented in the TH. Adherence was re-audited in 2017/18.
Results: In the 2017/18 audit, bridging heparin was prescribed as per recommendations in the TH in 77% of cases (n=14) compared to 25% in 2014 (n=19). Warfarin was re-started at the correct dose in 85% of cases (n=13) in 2017 compared to 44% (n=19) in 2014.
Conclusion: Anticoagulation remains a high risk area of prescribing. Digital technology presents a unique opportunity to influence prescribing decisions in patient-facing settings. The way the content is delivered is crucial for the success of digital resources. This project highlights the need to continually review the impact of prescribing resources in patient care. It is vital that we understand how end-users read, interpret and apply information to ensure guidance is fit for purpose.

Disclosure of Interest: None Declared

PP30

MAGNESIUM AND CALCIUM DEFICIENCY AFTER TREATMENT WITH OMEPRAZOLE: A CASE REPORT

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Is this work original?: Yes

Please specify your abstract type: Descriptive abstract

Background and Objective: Magnesium and calcium are essential elements for humans having multitude of structural and metabolic functions. Hypomagnesemia and hypocalcemia are electrolyte disorders associated with increased morbimortality, and this is why early diagnosis and treatment are important.

The aim is to describe the case of a patient with several episodes of severe hypomagnesemia and hypocalcemia caused by omeprazole.

Design: Clinical history, laboratory tests and treatment of the patient are reviewed before, during and after the appearance of the adverse effects; and their causal relationship is studied.

Results: The patient is notified for emergency assessment due to severe hypomagnesemia and hypocalcemia reported from the laboratory. She is a 65-year-old woman, smoker, with hypertension, dyslipidemia and peptic ulcer treated with omeprazole 40 mg/day, o*lmesartan* medoxomil 40 mg/day, furosemide 40 mg/day, atorvastatin 20 mg/day, sertraline 50 mg/day, trazodone 100 mg/day and levetiracetam 1000 mg /day.

The analytic test reflects: Magnesium: 0.3 mg/dL (reference values: 1.6-2.6 mg/dl), Calcium: 4.9 mg/dL (reference values: 8.1-10.4 mg/dl) and rest of values are normal. Symptoms include paresthesias in lower extremities and tetany in left upper extremity. Admission for intravenous electrolyte replacement was decided; In addition, furosemide is suspended due to it probable relationship with hypomagnesemia. After 10 days of admission with normalized levels and without clinical, she is decided to discharge with magnesium supplementation.

After two more admissions with the same sympthoms and clinical picture (Magnesium: 0.5 mg/dL, Calcium: 5,5 mg/dL in the last), it was decided to replace omeprazole with ranitidine. After discharge, monthly controls are performed with normal analytics and without symptoms.

Conclusion: The development of events indicates that hypomagnesemia and severe secondary hypocalcemia is due to the continued use of omeprazole.

Although hypomagnesemia could be multifactorial, it is relatively frequent in treatments with such proton pump inhibitors as omeprazole, and therefore a determination of magnesium levels should be requested in patients with prolonged treatment and a warning of the risk of hypomagnesemia should be included on the product documentation.

Disclosure of Interest: None Declared

PP31

A CASE REPORT OF ACUTE PANCREATITIS BY TREATMENT WITH AZATHIOPRINE.

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract
Background and Objective: Azathioprine is an immunosuppressant antimetabolite that could be use or in combination with other agents such as corticosteroids for processes in which it is necessary to modify the immune response such as Inflammatory bowel disease, therefore it is indicated in Crohn's disease.
The aim is to describe a case of a patient with Crohn's disease who developed acute pancreatitis due to treatment with azathioprine.
Design: Clinical history, laboratory tests and other medical tests are reviewed before, during and after the drug intake and the appearance of adverse effects; and then its causal relationship is assessed.
Results: A 32-year-old smoker and asthmatic woman recently diagnosed with Crohn's disease after a postpartum diarrheic episode, in treatment with mesalazine until complete the vaccination calendar (Hepatitis B and Pneumococcus). After finishing it, she started immunosuppressant treatment with azathioprine 50 mg/12 hours. Fifteen days after the beginning of the treatment, the analytical control is getting ahead for nausea and discomfort.
In the laboratory we observed an considered elevation in the CRP: 24.6 mg/L, a slight rise in amylase 145 U/L (reference values: 10-118 U/L) and critical values for lipase: 1999 U/L (reference values: 65-230 U/L) so we urgently notified to her *general practitioner*. He suspended azathioprine for its possible causal relationship and left the patient under surveillance and rest. After a few days, the discomfort disappeared and the levels of CRP and lipase decreased and a treatment with adalimumab is started.
After 3 months, during the medical examination, the patient indicates a clear improvement in diarrhea and in her general state from the onset with adalimumab, and analytic parameters are in normal values.
Conclusion: The development of events shows that azathioprine was the cause of acute pancreatitis. After the suspension of the drug, the adverse effects were decreasing and the biochemical parameters were restored.
Pancreatitis is a rare adverse reaction, but cases have been described in a small percentage of patients treated with azathioprine diagnosed with inflammatory bowel disease, and therefore the determination of lipase and/or amylase should be requested in this group of patients.

Disclosure of Interest: None Declared

PP32
A CASE REPORT OF ACUTE HEPATITIS IN PATIENT TREATED WITH METFORMIN.

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract
Background and Objective: Metformin is the first-election drug for the mellitus diabetes type II treatment if diet and exercise recomendations fail. The most frequent side effects are digestive, such as nausea, vomits, diarrhea, anorexia or changes in the taste. There are also more rare but severe side effects such the lactic acidosis.
The aim is to describe a case of a patient who developed acute hepatitis due to treatment with metformin.

Design: Clinical history, laboratory tests and treatment of the patient are reviewed before, during and after the appearance of the adverse effects; and their causal relationship is assessed.
Results: 65-years-old woman who come to emergencies following the general practitioner recomendations after altered transaminases values finding. She presented epigastric pain, getting worse after meals, accompained by dark urine without acholia, since 4-6 weeks. She never taked herbalistic drugs. As relevant antecedents, she started with metfomin for her diabetes 6 weeks ago. At admission, she presented the following biochemistry values: Glucose: 193 mg/dl, alteration of coagulation test, ALT: 1414 U/L and the rest are normal. We started K vitamin treatment and the Endocrinology department stopped metformin, starting with slow and rapid postprandial insulin regimen with good glycemic control. One week after admission, patient was asyntomatic, with a progressive improvement of liver function tests: AST 450 U/L, ALT 914 U/L and negatives serologies for CMV, EBV, HAV, HBV, HCV y HEV and therefore, she is discharged, substituting metformine for dapagliflozin.
On month later, in the digestive revision, she is asyntomatic, with improvement of values: ALT 722 U/L, AST 401 U/L and normal liver X-Ray.
Conclusion: Analyzing the entire process, we can almost assure that the acute hepaptitis was caused by the introduction of metformin treatment, as the syntomatology is related with the start and interruption of treatment, and clinic and liver function values were getting better after metformin stop.
The probability of acute hepatitis under metformin treatment is very low (<1/10.000), but, as is the most prescribed drug for mellitus diabetes II, the possibility of some cases are not negligible, due to its extended and generalized use.

Disclosure of Interest: None Declared

PP33

ANTICOAGULATION THERAPY IN A SEVERELY OBESE PATIENT – A CASE REPORT

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract
Background and Objective: We need to treat more and more obese patients with anticoagulants. Standard dosage regimes may be inappropriate in such patients. The package insert and expert information do not contain dose recommendations for high body weight or body mass index (BMI).
Design: We report the case of a 50 years old female patient. She was admitted to hospital because of a shock with right heart failure and pulmonary embolisms. Due to diverse complications she stayed 2.5 months in the intensive care unit and the surgery ward. We saw her in the acute neurorehabilitation unit (ANR) where she stayed another 3 months. Her weight was around 180 kg with an BMI of 67. Due to immobility it was not possible to weigh her. She presented several decubitus ulcers infected with MRSA and treated with a vacuum assisted closure (VAC) system.
Results: In the surgery unit she was initially treated with 56'000 IU/d unfractionated heparine which has been temporarily increased to 68'000 IU/d. Due to bad veins the treatment was switched to dalteparin s.c. starting with a dose of 30'000 IU/d and increasing to 35'000 IU/d (normal dose: 200 IU/kg/d, maimum daily dose: 18'000 IU). The anti-Xa level, measured directly after the first increased dose and one omitted dose, was in the therapeutic range. The dose was continued during the stay on the surgery ward and later on in the ANR. Two weeks later the anti Xa level was 1.7 U/ml (recommended range 0.5-1.5). The dalteparin dose was reduced to 25'000 IU/d resulting in appropriate levels. After the completion of the VAC therapy the switch to an oral anticoagulation therapy was planned. Based on a literature search we recommended rivaroxaban starting with a normal loading dose of 2x15mg. The peak plasma concentrations after 2h and 4h were 156 and 126 ng/ml (therapeutic range 184-343). The patient left the ANR for further rehabilitation.
Conclusion: Drug dosing in heavily obese patients is difficult. Standard doses could be either too high (dalteparin) or too low (rivaroxaban). Due to a higher volume of distribution time to reach steady state may be longer. Therefore monitoring should not start too early and be regularly repeated.

Disclosure of Interest: None Declared

PP34

ANALYSIS OF SPONTANEOUS ADVERSE DRUG REACTIONS REPORTS WITH ORAL ANTICOAGULANTS IN THE CZECH REPUBLIC

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Is this work original?: Yes
Please specify your abstract type: Research abstract

Background and Objective: Oral anticoagulants (OACs) including vitamin K antagonists (warfarin) and direct oral anticoagulants (DOACs) are clinically meaningful and effective drugs for the prevention and treatment of thromboembolic events. However, because they are considered as high risk drugs, monitoring their safety remains warranted. The aim was to explore spontaneously reported adverse drug reactions (ADRs) related to OACs in the Czech Republic from January 2005 to November 2017.
Setting and Method: A retrospective study was conducted using data from the Department of Pharmacovigilance of the Czech national of agency – the State Institute for Drug Control (SUKL). Spontaneous reports of suspected ADRs to warfarin, dabigatran, rivaroxaban, and apixaban received from healthcare professionals and patients were analysed using descriptive statistics and Chi-square test, as well as reporting odds ratios (ROR) and their 99% confidence intervals (CI) were calculated. Reports were related to the consumption of these drugs in the given period.
Main outcome measures: Frequency and type of ADRs including ROR for each individual OAC.
Results: In the study period, 297 reports containing 672 ADRs were received by the SUKL. Healthcare professionals sent 269 reports, majority of them were from physicians (85%). DOACs comprised 65% of all reports and 64% of ADRs. With increasing DOACs utilization, the reporting rate gradually declined, especially for rivaroxaban and apixaban. 21 reports contained a fatal outcome, of which 14 were caused by dabigatran. Out of total ADRs, haemorrhagic reactions were reported most frequently (37% associated with dabigatran, 28% with apixaban, 24% with warfarin, and 23% with rivaroxaban). On the other hand, 13%, 7%, and 1% thromboembolic events were reported for rivaroxaban, apixaban, and equally for dabigatran and warfarin, respectively. Compared to warfarin, a higher total number of ADRs (ROR: 10.76; CI 8.70–13.32) as well as haemorrhagic ADRs (ROR: 14.36; CI 9.57–21.54) were reported with DOACs.
Conclusion: Although the number of reports and ADRs with DOACs was not high in the Czech Republic, most of ADRs were serious. Signals from spontaneous ADR reporting should be further monitored and assessed because enhanced knowledge of the potential risks of anticoagulants may increase their safe use and consequently their therapeutic value.

Disclosure of Interest: None Declared

PP35

USING OF PHARMACEUTICAL INTELLIGENCE IN A NEW SOFTWARE TO IMPROVE PHARMACEUTICAL ANALYSIS OF ANTICOAGULANTS

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract

Background and Objective: Our institution has a new IT solution (Pharmaclass®) that can detect potential iatrogenic situations using prescription and biology data in computer rules coded by clinical pharmacists. Focusing the quality of high-risk medicine management (decree of 6 April 2011-France), a priority action was to apply the solution on the class of anticoagulants. The present study evaluate pharmaceutical interventions (PIs) produced with the help of the software.
Design: Frequency of pharmaceutical interventions (PIs) targeting anticoagulants (heparins, vitamin K antagonists and direct oral anticoagulants -DOACs) on the total number of prescription lines were compared between 2 periods: period A (12 months) and period B (2 months), respectively before and after implementation of the software with 27 rules about anticoagulants. PIs acceptance and level of contraindications were also compared. Frequencies comparisons were performed using Z-test and Miettinen method to calculate the 95% confidence interval of odds ratio (OR).
Results: During period A, pharmaceutical analysis of the 548 175 prescription lines generated 253 PIs targeting anticoagulants. During period B, doctors prescribed 98 083 lines at the origin of 109 PIs involving anticoagulants. Clinical pharmacists performed 51 PIs (47%) thanks software detection. Using IT solution, the frequency of PIs significantly ($p<0.001$) increased with an OR=2.41 with a 95% confidence interval [1.94; 3.00[. The frequency of PIs classified as « contraindications » also significantly increased (13% versus 26%; p=0.002). This effect is linked to the creation of major gravity rules such as use of heparins or DOACs in patients with renal impairment and the coprescription of DOACs with others anticoagulants. The 53 PIs from software alerts had a significant ($p<0.001$) greater level of acceptance (96%; 49/51) compared to PIs from period A (75%; 189/253).
Conclusion: This new method using pharmaceutical script on patients' health data is efficient to improve clinical pharmaceutical analysis of anticoagulants, increasing both quantity and quality of PIs. Further optimization should focus on the technical issues to increase the amount of recovered data (as the exact posology) to create additional and more specific rules. This approach could also represent an innovative way to standardize some PIs in clinical pharmacy.

Disclosure of Interest: None Declared

PP36

KNOWLEDGE ABOUT ORAL ANTICOAGULANTS : HOW TO INCREASE THE LEVEL?

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract

Background and Objective: Oral anticoagulants (OAC) are widely known for their iatrogenic nature. Many preventive measures to combat this iatrogenesis have been put in place, such as patient education (PE). The objectives of this study are to evaluate the PE's relevance and impact, to identify difficulties associated with their implementation and to propose improvement measures.
Design: This retrospective study was conducted from September 2015 to December 2018. It concerns all patients on OAC, except those unable to receive information (e.g. dementia, language barrier). The main concepts discussed concern the drug, its effectiveness, tolerance and follow-up. At the PE's end, patient's knowledge is evaluated and qualified as acquired, partially acquired and not acquired, if the concepts are acquired at 100%, ≥50% and <50% respectively. These PE are performed by pharmacy students, technicians and pharmacists.
Results: A total of 488 PE were made. The patient's average age is 77 years old. On average, a PE lasts for 20 minutes. The OAC's name, its indication and administration methods are known respectively in 44% (n=214), 50% (n=245) and 45% (n=219) of the cases. In case of forgetfulness, the symptoms related to over- and under-dosing are known, respectively, by 14% (n=70), 20% (n=97) and 18% (n=88) of the patients. Among the 172 patients on vitamin K antagonist, 42% (n=72) know the INR target value, 31% (n=54) know how to interpret it and 38% (n=65) are aware of potential interactions with food. At the PE's end, knowledge was evaluated for 42% (n=207) of patients. For 29% (n=60) of them, the notions are acquired, for 57% (n=119), partially acquired and for 14% (n=28), unvested. The PE doubled the known items by 30% (n=62) of the patients. Patients who have already had a PE (n=32) achieve higher scores (75%) than patients who never had a PE (62%).
Conclusion: Patient's initial knowledge on their anticoagulant therapy is very low. The greatest PE's difficulty lies in the patient's ability to receive information. Nevertheless, after the first PE, nearly three quarters of patients acquired more than 50% of the concepts. The PE's repetition is essential to maintain patient knowledge. A city-hospital collaboration project should meet this requirement.

Disclosure of Interest: None Declared

PP37

HEPARIN CALCIUM AND LOW-MOLECULAR-WEIGHT HEPARIN: A STUDY FOR JUST PRESCRIPTION

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Is this work original?: Yes
Please specify your abstract type: Descriptive abstract

Background and Objective: Heparin calcium (HC) and low-molecular-weight heparin (LMWH) are widely used for treatment and prevention of venous thromboembolism (VTE). In VTE prevention, HC is indicated for patients with severe renal dysfunction only and requires more injections than LMWH. Our hospital consumes a lot of HC in VTE prevention: 9027 defined daily doses (DDD) in 2018, which represents 12% of all heparin DDD. The aim of our study is to evaluate HC and LMWH prescription in our hospital.
Design: We gathered all HC and LMWH current prescriptions in VTE treatment and prevention on a given day in all wards and collected patients' biological data. We calculated creatinine clearance with Modification of Diet in Renal Disease (MDRD) and Cockcroft-Gault formulae and selected the most pessimistic result. Then we analyzed prescriptions according to Summaries of Products Characteristics (SmPC) of HC and LMWH.
Results: 142 prescriptions of HC and LMWH were collected in both indications. HC prescriptions represent 21% (N=30) of them. 41 errors were detected for 35 prescriptions.
47% (N=14) of all HC prescriptions contain at least 1 error (N=16). 93% (N=13) of those prescriptions are for patients with medium or no renal dysfunction. 21% (N=3) carry under dosing.
21% (N=23) of all LMWH prescriptions contain at least 1 error (N=25). 52% (N=12) of those prescriptions involve LMWH that are not available in our hospital. 30% (N=7) carry under dosing. 17% (N=4) are for patients with severe renal dysfunction. For 9% (N=2) of them, patient's weight information can't be found for VTE treatment.
Those errors affect all wards. However, we noted massive enoxaparin prescription for VTE prevention in surgery wards, whereas dalteparin is the only LMWH available in this indication in our hospital. When this happens, nurses use the available high-dose enoxaparin syringes to inject a low dose to patients.
Conclusion: 47% of HC prescriptions are inappropriate, mainly because they are for patients with medium or no renal dysfunction.
21% of LMWH prescriptions are inappropriate. A great part is due to prescribers' ignorance of the available LMWH in surgery wards. We uncovered a misuse under this problem.
To reach our goals of good practice, we will work on information about our available LMWH and raise awareness of recommendations of heparin use.

Disclosure of Interest: None Declared

PP38

ASSESSMENT OF KNOWLEDGE AND PRACTICES OF HEALTH PROFESSIONALS ON VITAMIN K ANTAGONISTS

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Is this work original?: Yes
Please specify your abstract type: Research abstract

Background and Objective: Vitamin K antagonists (VKA) are part of oral anticoagulants which are drugs with narrow therapeutic margins. Health professionals must therefore have a deep knowledge of the rules of good practice of VKA in order to better manage them and avoid drug iatrogenic. This study aims to evaluate the knowledge of health professionals in the public and private sector on vitamin K antagonists.
Setting and Method: This is a cross-sectional descriptive survey conducted among healthcare professionals over a period of 5 months. The study is conducted at the level of public hospital structures and at the level of the private health sector.
Main outcome measures: Data is entered and analyzed using SPSS software version 20.0
Results: 483 questionnaires were completed including 186 (38.5%) at the private sector and 297 (61.5%) at the public sector. The most represented category is the medical setting (61%). The average of the correct answers is 55.9% with 53.4% for professionals in the private sector and 57.3% for professionals in the public sector. Specialists in cardiology have the best average with 67.2% followed by medical specialists in pneumology with 66.7%. paramedical staff with an average of 44.1% are at the bottom of the rankings. The questionnaire is divided into 5 themes. For these five themes, the averages of correct answers at the public sector are better than those of the liberal sector. At the level of the two sectors, the topic of treatment monitoring has the best rate of correct answers and the theme of day-to-day management has the lowest rate. Specialist doctors obtained the highest average for the five questionnaire topics with 69.4%, 67.4%, 84%, 78% and 46.8% respectively.
Conclusion: The level of knowledge about VKAs is insufficient. Efforts must be made in the knowledge and prescription of these drugs for better treatment management both in terms of initial medical education and continuing.

Disclosure of Interest: None Declared

PP39

PRESCRIPTION OF ORAL ANTICOAGULANTS: TRENDS FROM 2011 TO 2018 IN A PRIMARY HEALTH CARE AREA.

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Is this work original?: Yes

Please specify your abstract type: Descriptive abstract

Background and Objective: Vitamin K antagonists (VKAs), such as acenocumarol or warfarin, have been the pharmacological therapy choice for patients with atrial fibrillation (AF) and other thrombotic conditions for decades. The development of direct oral anticoagulants (DOACs), three factor Xa inhibitors (apixaban, edoxaban and rivaroxaban) and one direct thrombin inhibitor (dabigatran), has offered an effective and safe alternative to VKAs.

The aim of this study is to know how prescription of oral anticoagulants (OACs) has evolved since the introduction of DOACs.

Design: Retrospective and observational study from January 2011 to December 2018. Inclusion criteria: patients with prescriptions of OACs in a specific primary care area of around 150,000 inhabitants of population. Data were gathered from register of primary care electronic prescription, using Business Objects SAP® software. Data obtained were sex, age, active ingredient, product, and number of monthly dispensations.

Results: A total of 3353 patients (55,2% male; 44,8% female; mean age 69,6) were identified. Prevalence of anticoagulants prescription was, in 2011 (n=1114), acenocumarol (88,1%), warfarin (8,6%) and dabigatran (3,2%); while in 2018 (n=1981) was as follows: acenocumarol (51,8%), rivaroxaban (19,9%), apixaban (17,2%), dabigatran (5,5%), warfarin (4,5%) and edoxaban (1%). The incidence of OACs prescriptions has changed throughout last few years finding in 2018 (n=456) the following distribution: rivaroxaban (31,4%), apixaban (29,4%), acenocumarol (28,9%), dabigatran (5,3%) , warfarin (4,2%) and edoxaban (0,9%).

Conclusion: DOACs have been increasingly prescribed throughout last few years. National Health Services fund these agents for a) Prevention of venous thromboembolic events in adult patients who have undergone elective hip or knee replacement surgery (dabigatran and apixaban) and b) Prevention of stroke and systemic embolism in adult patients with atrial fibrillation (apixaban, dabigatran, edoxaban, rivaroxaban). The fact that acenocumarol is still these days the most prevalent anticoagulant in our area, could change soon according to prescription trends.

Disclosure of Interest: None Declared