Patient 3: 3-year-old girl, early diagnosis, 1 month of imiglucerase treatment.

Parameter	Before ERT	During ERT	% change of parameters
Haemoglobin (g/dl)	3.2	5.1	+59%
Platelets x109/l	85	63	−25%
AST	70	73	+4%
ALT	48	32	−33%

Patient 4: 11-year-old boy, delayed diagnosis, 11 months of treatment with taliglucerase, after 1 year interruption of ERT.

Parameter	Before ERT	During ERT	% change of parameters
Haemoglobin (g/dl)	11.4	12.6	+10%
Platelets x109/l	127	101	−20
AST/ALT	123/34	-	-
B glucosidase (ukat/kg of prot)	1	-	-

The ERT had generally been well tolerated and no adverse effects were identified.

Conclusion The ERT used by our patients has an acceptable tolerance profile as well as beneficial effects on the parameters related to the disease. These beneficial effects were demonstrated by the effectiveness variables that were kept stable or improved throughout the treatment in children with Gaucher disease.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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No conflict of interest.

4CPS-186 THERAPEUTIC DRUG MONITORING OF TYROSINE KINASE INHIBITORS: KEY TO PERSONALISED MEDICINE IN ONCOLOGY

K Chetouane*, I Debrix. *Tenon Hospital, Pharmacy, Paris, France*

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Background Tyrosine kinase inhibitors (TKIs) are increasingly used as oral targeted therapies in oncology. However, the oral route leads to a high interindividual pharmacokinetic variability. Thus, in order to improve efficacy and/or reduce toxicity, therapeutic drug monitoring (TDM) can be used to adapt doses and personalise treatments.[1 2]

Purpose To assess the potential impact of TDM on clinical decisions in patients treated with TKIs.

Material and methods Retrospective study from January to October 2018 including patients treated for solid tumours with TKIs.

Blood samples were collected and analysed to determine TKIs trough plasma concentrations 3 to 15 days after administration depending on the TKI (necessary time to reach targeted steady state).

All patients were initiated at the recommended daily dose of TKIs. Doses were then adjusted based on efficacy, toxicity and TDM outcomes. In case of failure on TKIs, patients were administered a second-line therapy or another TKI.

The evaluated criteria were patients' characteristics, concomitant treatments, patients' plasma exposure, medical decision, tolerance and disease progression.

Results In total, we collected and analysed 73 blood samples, of which 61.6% were an anti-estimated glomerular filtration rate (afatinib, osimertinib, gefitinib, erlotinib), 21.9% anti-CDK4/6 drug (palbociclib) and 16.4% anti-vascular endothelial growth factor drugs (cabozantinib, nintédanib, pazopanib, regorafenib, sunitinib).

Sixty-two per cent (n=45) of the samples were within the therapeutic interval and most patients continued treatment. However, 10 cases were switched: eight because of disease progression and two due to toxicity.

Despite subtherapeutic exposure (26%, n=19), treatment was continued without any dose escalation in nine cases, as the maximum authorised dosage was reached.

On the other hand, supratherapeutic exposure (12%, n=9) required dose reduction of the TKI or treatment withdrawal in five cases while the other four had a good tolerance.

TKIs are mostly well tolerated as 12 patients out of 45 reached the 1–2 toxicity grade and only two patients reached the 3–4 toxicity grade.

Four drug-drug interactions have been identified after TDM. TKIs are essentially metabolised by cytochrome P450 enzymes.[3]

Conclusion This study suggests that TDM could help in daily clinical decisions along with other clinical data. Indeed, TDM helped us to detect supratherapeutic exposure and reduce toxicity, uncover drug interactions and optimise patient management to improve clinical outcomes.

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3. PMID: 24041628.

No conflict of interest.

4CPS-187 EVALUATION OF EXIT PRESCRIPTIONS USING COMPUTERISED PROVIDER ORDER-ENTRY SYSTEM FOR OUTPATIENTS

[1]M Abbes*, [1]J Nakab, [2]S Berdah, [3]F Bernard, [3]P Rossi, [1]N Colombini. *[1]Hôpital Nord de Marseille, Pharmacie à Usage Intérieur, Marseille, France; [2]Hôpital Nord de Marseille, Chirurgie Digestive, Marseille, France; [3]Hôpital Nord de Marseille, Médicine Interne et Gériatrie, Marseille, France*

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Background Medication errors are a major source of many risks to patients. The replacement of hand-written orders by the recommended Computerised Provider Order-Entry (CPOE) system[1] makes it possible to issue exit prescriptions more safely. Indeed, outpatients can benefit from pharmaceutical opinions reported during their hospitalisations.

Purpose Outpatients must have a complete record of medication drugs prescribed by the hospital's physicians. To improve patients' clinical care, it is necessary to evaluate the conformity of outpatient medication.

Material and methods We conducted a retrospective study in three hospital departments (digestive surgery, internal medicine, geriatrics) over a 6 month period in order to analyse the conformity and errors in the exit prescription related to CPOE using the software Pharma (Computer Engineering, France) and the Electronic Medical Records (EMR) in Axigate (Pharmagest, France).

Results One-thousand two-hundred and eighty-nine patients were included, of which 933 (72%) had an exit prescription

using the software Pharma. Analysis of conformities showed that 204 patients (16%) had no Pharma exit prescription but exit treatments written in the EMR and 152 patients (12%) had no data either in Pharma nor in Axigate. Among the 933 patients, 348 (37%) had a copy/pasted prescription into their EMR and 585 (63%) presented discrepancies or lack of treatment into their EMR. No patient had the exit prescription scanned into their EMR although the software allows it. Two-hundred and seventy patients (29%) had no bodyweight provided even after the pharmacist notifications. Analysis of errors' prescriptions: 255 were incorrect (4% of 7258 total number of drugs prescribed) with 36% drug redundancies, 29% incorrect dosage forms, including 7% of excessive dose and refractory period not respected in 25% cases. These errors were formulated daily by hospital pharmacists as a pharmaceutical opinion in Pharma but not applied by physicians in exit prescriptions.

Conclusion The exit prescriptions are not always recorded with CPOE Pharma. Several nonconformities and errors in outpatients' prescriptions, mainly absence of bodyweight and incorrect drug prescriptions are noted. Hospital pharmacists' initiatives, such as training and communication with physicians, have been set to improve exit prescriptions which will be served by community pharmacies.

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No conflict of interest.

4CPS-188 GALENIC PREPARATIONS AND RARE DISEASES: GUANIDINOACETATE METHYLTRANSFERASE DEFICIENCY: EXPERIENCE IN A LOCAL HOSPITAL

L Gambitta*, E Togliardi, E Strada, L Zampogna, G Lo Cricchio, A Bezzi, D Di Benedetto. *ASST Santi Paolo E Carlo- San Carlo Borromeo Hospital, Hospital Pharmacy Operative Unit, Milan, Italy*

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Background Guanidinoacetate methyltransferase (GAMT) deficiency is a rare disorder (prevalence <1/1,000,000), inherited as autosomal recessive traits, characterised by an inborn error of creatine synthesis. Creatine deficiency results in a combination of symptoms such as intellectual disability, autistic behaviour, seizures, speech delay and hypotonia. Magnetic resonance is used at diagnosis and follow-up. The treatment goal is an increase in creatine levels in the brain with oral creatine supplements, ornithine and sodium benzoate. On-the-market benzoate medicinal products do not exist and dietary supplements of ornithine and creatine do not satisfy the needs of the paediatric population in constant growth. Galenic preparations are the unique way to succeed in treating this rare disease.

Purpose The objective was to report our experience, in order to focus on the importance of galenic preparations, unique resources to treat paediatric patients and orphan diseases.

Material and methods The best regimen was established by a multidisciplinary approach in a function of patients' weight and laboratory data (creatine and guanidinoacetate levels). An appropriate formulation was chosen according to active substance solubility and mucous membranes irritancy. Follow-up data were recorded retrospectively through medical records.

Results Two Egyptian patients, 13 and 19 years' old, weight 56 and 94 kg respectively, in 2012 were diagnosed with GAMT deficiency by the Paediatric Unit. We chose unitary solid formulation: ornithine maps of 5 g for the first patient (10 g/die), maps of 2 g for the second (7 g/die) (106 mg/kg/die). Creatine had been given as powder, with a specific doser, considering high daily amount: 11 gx2/die for the first patient and 12 gx3/die for the second patient (382 mg/Kg/die). Concerning sodium benzoate, an irritant for mucosa, a 20% liquid formulation was chosen, to be administered with fruit juice. Clinicians decided a posology of 59 mg/kg/die, so 9 mLx2/die were administered to the first patient, and 14 mLx2/die were administered to the second patient. Patients since 2012 have not manifested adverse drug reactions and therapy has brought a stable clinical picture: optimal creatine level, measured as peak at MR, and low levels of gaunidinoacetate on spot (8.3 mcM/L), indicative of good metabolic control.

Conclusion GAMT deficiency is a rare cerebral disorder, with a high impact on patients' quality of life. A palliative approach is possible only through galenic preparations. Personalised therapies allow these patients to manage intellectual and movement disability in a better way, contributing to improving and/or stabilising the clinical picture.

REFERENCE AND/OR ACKNOWLEDGEMENTS

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No conflict of interest.

4CPS-189 ADEQUACY OF THE PRESCRIPTION OF PARENTERAL NUTRITION IN NEONATOLOGY

A Pintado*, C Fernandez Cuerva, JJ Alcaraz Sanchez, C Gallego Fernandez, I Muñoz Castillo. *Hospital Regional Universitario Malaga, Farmacia Hospitalaria, Malaga, Spain*

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Background Nowadays, there is a stronger consensus on the proceedings of nutritional support with parenteral nutrition (PN) in paediatrics and nutritional requirements in order to improve the process quality and the patient's safety.

Purpose Review the prescriptions of PN to identify the degree of adherence to the available evidence (Clinical Practice Guide SENPE/SEGHNP/SEFH 2017) and propose areas for improvement.

Material and methods Retrospective study of newborn patients who received PN during 2017 in the area of neonatology in our hospital.

Patients divided according to the age ranges established by the guidelines: preterm newborn (RNPT) and term newborns under 1 month (RNAT).

Variables: contributions of macronutrients (aminoacids, glucose, lipids), micronutrients (sodium, potassium, phosphorus, calcium), volume/kg and caloric requirements.

Data collected from PN elaboration program, Nutriwin, treated in Excel.

Results One-hundred and seventy-nine RNPT and 2,429 PNs were prepared and validated. Aminoacids (aa): 96.8% of PNs met the recommended requirements (3–4 g/kg/day). Carbohydrates (CH): 85.4% were adjusted and 13.4% were above the recommendations (6–12 g/kg/day). The limit of CH (16–18 g/kg/day) was not exceeded. Lipids: they did not exceed the maximum limit (3–4 g/kg/day). Sodium (Na) and potassium