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.

REFERENCE AND/OR ACKNOWLEDGEMENTS

1. Prescription errors related to the use of computerised provider order-entry system for paediatric patients. <https://www.sciencedirect.com/science/article/pii/S1386505617300837>

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

10.1136/ejhp-pharm-2019-eahpconf.337

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 guanidinoacetate on spot (8.3 mM/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

- Viau, et al. *evidence-based-treatment of guanidinoacetate methyltransferase deficiency*, 2013, Elsevier.

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

10.1136/ejhp-pharm-2019-eahpconf.338

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 PN's were prepared and validated. Aminoacids (aa): 96.8% of PN's 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

(K): 82.69% and 93.03% met the recommended requirements respectively (3–5 mEq/kg/day and 2–5 (mEq/kg/day); phosphate (P): 23% within the recommended limits (1.45–2.25 (mM/g/day), 64.47% above; and calcium (Ca): 80.44% within the recommended range (3–4 mEq/kg/day). Recommended volume (140 ml/kg/day): 7.96% on range, 92.04% below. kcal/kg: in 95.5% of patients increased compared to that recommended on the first day (60 kcal/kg/day); and 90% of patients were below the recommended level in the third week (120 kcal/kg/day).

RNAT under 1 month: 24 patients and 248 NPs. aa: 43.54% met the requirements (2.3–3), exceeding 43.14%. HC and lipids: 100% within the limits (16–18 and 3–4 respectively). Na: 71.79% within the recommended range (2–3); K: 66.49% within the recommended range (1.5–3); 33.5% above; P: 39.5% met the recommendations (1–1.5), 24.5% below, 36% above; and Ca: 75.40% on range (2–3). Volume ml/kg: 90.38% lower than recommended (140 ml/kg/day). Energy requirements: 83.33% of patients lower than recommended (110 kcal/kg).

Conclusion We consider an acceptable degree of adequacy to the published recommendations regarding macronutrient inputs and caloric distribution. The energy and water contributions below the mean could be justified by the administration of concomitant enteral nutrition. The contribution of micronutrients is more variable because of the individual situation of each patient.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

4CPS-190 RITUXIMAB USE IN CHILDREN, A SINGLE HOSPITAL EXPERIENCE

¹M Pallares Borrás, ¹A Comes Escoda, ¹F Bossacoma Busquets, ²AD Madrid Aris, ¹M Sánchez Celma*, ¹J Arrojo Suarez, ¹J Vinent Genestar, ³A Martínez Deyà, ³L Alsina Manrique de Lara. ¹Hospital Sant Joan de Déu, Pharmacy, Esplugues de Llobregat, Spain; ²Hospital Sant Joan de Déu, Nephrology, Esplugues de Llobregat, Spain; ³Hospital Sant Joan de Déu, Clinical Immunology, Esplugues de Llobregat, Spain

10.1136/ejhp-pharm-2019-eahpconf.339

Background Rituximab is a monoclonal antibody directed against the CD20 antigen, expressed on the surface of B-lymphocytes, promoting the lyses of the cells. It is labelled for adult different indications, non-Hodgkin's lymphoma, chronic lymphocytic leukaemia (CLL), rheumatoid arthritis and granulomatosis with polyangiitis and microscopic polyangiitis. Nowadays it is commonly used as an off-label treatment for many other diseases, including some paediatric disorders.

Purpose To describe the patterns of rituximab use in a paediatric teaching hospital.

Material and methods We conducted a retrospective observational study involving all patients treated in a paediatric hospital with rituximab from January 2001 to June 2018.

Clinical data were collected from electronic patients' medical records, including: patient age, prescribing services and indication.

Results The study comprised 145 patients (39% males) with a median age of 15.4 years. The principal indications according to the prescribing services were:

- Forty-seven patients of the nephrology unit: resistant or refractory nephrotic syndrome (34) and transplants–rejects (13).

- Forty patients of the oncology unit: non-Hodgkin lymphoma (23), syndrome opsoclonus-myoclonus in neuroblastoma (14) and others (three).
- Twenty-five patients of the haematology unit: disease: haemolytic anaemia (11), leukaemia (four), haemophagocytic syndrome (four), thrombocytopenic purpura (two) and others (four).
- Thirteen patients of the rheumatologic diseases unit: juvenile idiopathic arthritis (four), systemic lupus erythematosus (four), vasculitis (two) and others (three).
- Twelve patients of the neurology unit: autoimmune encephalitis (nine), post-Herpes Simplex encephalitis (two) and others (one).
- Seven patients of the infectious unit: Epstein-Barr virus infection (seven).
- One dermatologic disease: Steven-Johnson disease (one).
- No unexpected side effects were observed outside those reported in the summary characteristics of the product.

Conclusion In paediatrics, rituximab treatment is prescribed for off-label indications. Our study shows that rituximab is used in a wide variability of disorders, where the renal disease, specifically the nephrotic syndrome, is the most common indication as a second-line treatment.

Although the utilisation of rituximab increases every year and some uses are well described, further studies for some indications are necessary to establish a correct safety and efficacy profile in children.

REFERENCES AND/OR ACKNOWLEDGEMENTS

To the pharmacy, oncology, haematology, immunology and nephrology staff.

No conflict of interest.

4CPS-191 EFFECTIVENESS AND SAFETY OF RADIUM-223 CHLORIDE IN BONE-METASTATIC CASTRATION-RESISTANT PROSTATE CANCER

¹JJ Martínez Simón*, ²MA Asensio Ruiz, ³C Sobrino Jiménez, ⁴M Soria Soto, ²A Abella Tarazona, ³F Moreno Ramos, ¹AM Gómez Pedrero, ²MT Martínez Martínez, ¹M Pérez Encinas. ¹Hospital Universitario Fundación Alcorcón, Hospital Pharmacy, Alcorcón, Spain; ²Hospital General Universitario Virgen de la Arrixaca, Radiopharmacy, Murcia, Spain; ³Hospital Universitario la Paz, Hospital Pharmacy, Madrid, Spain; ⁴Hospital General Universitario Morales Meseguer, Hospital Pharmacy, Murcia, Spain

10.1136/ejhp-pharm-2019-eahpconf.340

Background Radium-223 (²²³Ra) chloride has been shown to improve overall survival (OS) and progression-free survival (PFS) in patients with castration-resistant prostate cancer (CRPC) and bone metastases.

Purpose To evaluate the effectiveness and safety of ²²³Ra in real-life clinical practice in patients with CRPC and bone metastases.

Material and methods Retrospective observational multicentre study evaluating all males with CRPC treated with ²²³Ra from July 2015 until September 2018. Demographical, diagnostic, therapeutic and clinical variables were collected. The response was assessed through the PFS and OS. To assess safety, all treatment-related adverse events were recorded.

Results Sixty-three patients with metastatic CRPC were treated with ²²³Ra at three different hospitals. Mean age 71.9 years (SD=10.3), 64% of patients ECOG 0–1% and 36% ECOG 2–3. Six per cent of patients received ²²³Ra as first treatment, 48% as second line and 25% as the third