Healthcare Products, serious cases of hypercalcaemia have been reported in children and adults associated with the use of cholecalciferol.

Aim and objectives To analyse the adequacy of cholecalciferol prescriptions in inpatients to detect medication errors.

Material and methods A retrospective observational study was conducted from January 2018 to July 2019 in a second level hospital, which included patients who had prescriptions of cholecalciferol during their hospital admission.

The following variables were recorded sex, age, pathology, indication, prescribed dose, vitamin D levels to define the degree of deficit, medication error (yes/no) and type of error, and prescribing service.

Data were obtained from the electronic clinical records (Diraya) and electronic prescribing software (Prisma).

Results Forty-six patients (56.5% women) were included, with a median age of 71.5 years (range 23–87). The most frequent pathologies presented by the patients were: renal insufficiency (26%), digestive pathologies (19.6%), thyroid disorders (13%) and joint pathology (10.9%).

Cholecalciferol was prescribed for vitamin D deficiency in 38 (82.6%) patients and as a prevention in 8 (17.4%). In 28 (60.9%) patients the dose of cholecalciferol was prescribed according to the summary of product characteristics, with a median of 400 IU. In 38 (82.6%) patients serum levels of vitamin D were available at hospital admission: 22 (57.9%) had a mild deficit, 11 (28.9%) had a severe deficit and 5 (13.2%) had levels within the range. Eighteen (39.1%) medication errors were detected, the most frequents were overdose (50%), non-indication (33.3%) and administration frequency (16.7%). The most prescribing services were endocrinology (26.10%), primary care physician (21.7%) and internal medicine (15.2%).

Conclusion and relevance The causes of non-adequacy of prescriptions in our patients corresponded to cholecalciferol overdose and incorrect indication. An area of improvement in the prescription of cholecalciferol has been detected. We will carry out an interdisciplinary protocol for the use of cholecalciferol with the services involved. In addition, prescriptions with medication errors will be communicated to the physicians (through telephone calls or messages) to avoid serious cases of hypercalcaemia and inadequate supplementation.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

5PSQ-006 PARENTERAL NUTRITION IN A NEONATOLOGY INTENSIVE CARE UNIT: DURATION AND COMPLICATIONS

C Álvarez Asteinza*, ME Gómez Álvarez, A Arias Martínez, R Menárguez Blanc, Á Pieras López, B Zarate Tamames, I Maray Mateos, MD Macía Rivas, CL Fernández Laguna, A Lozano Blázquez. *Hospital Universitario Central De Asturias, Pharmacy, Oviedo, Spain*

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Background and importance Parenteral nutrition (PN) can be used in any malnourished child or anyone at risk of malnutrition. In preterm newborns, it should be started in the first hours of life, although this artificial technique is not exempt from a series of complications related to its use.

Aim and objectives To analyse the use, prescription time and incidence of complications of PN in a neonatology intensive care unit (ICU).

Material and methods A retrospective descriptive study on the use of PN in the neonatology ICU in our hospital was performed in 2018. Demographic data, birth weight, prescription/reason for suspension, total number of PNs developed, type of nutrition, number of prescription days, metabolic complications (MC) (out of range glucose and triglyceride levels) and electrolytic complications (EC) (out of range ions) were collected from the electronic medical records and PN software.

Results Sixty-one patients (56% male, 44% female) were included in the study: 497 PN were prescribed, all central, and motivated by prematurity (97%), sepsis (1.5%) and oesophageal atresia (1.5%). Causes of cessation were transition to venoclysis (79%), oral nutrition via a nasogastric tube (8%), enteral nutrition via a nasogastric tube (6.5%), death (5%) or loss of central venous line (1.5%).

The number of days PN was given was <3 (n=7), 4–7 (n=21), 8–11 (n=18), 12–15 (n=8) and >15 (n=7). Mean duration in preterm infants by weight was 9.5 days (≤1.5 kg, n=31) and 8 days (>1.5 kg, n=28).

Out of range analytical determinations were observed in 116 cases. The average altered parameters in premature infants according to weight were: 2 (≤1.5 kg) and 0.9 (>1.5 kg). The average alterations according to duration were: 0.5 (≤5 days), 1.5 (5–10 days) and 3 (>10 days).

Alterations were detected in 41 patients (67%); 65.5% only developed EC and 36% only MC. The most frequent were hypernatraemia (31%) in EC and hyperglycaemia (24.5%) in MC (also being the earliest).

Conclusion and relevance The main reason for prescription of PN in neonates was prematurity. The main reason for cessation was a switch to venoclysis. Usage time was slightly longer in those with a lower birth weight. For alterations, the most frequent was hypernatraemia and the earliest hyperglycaemia.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

5PSQ-007 THE PHARMACEUTICAL GOVERNANCE OF LOW MOLECULAR WEIGHT HEPARINS: APPROPRIATENESS ANALYSIS

MR Garreffa*, P Vitale, A De Franco Iannuzzi. *Health District of Crotone, Territorial Pharmacy, Crotone, Italy*

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Background and importance Since 2017, in our region, low molecular weight heparins (LMWH) used off-label for prophylaxis and the treatment of venous thromboembolism in pregnancy, oncology and for bridging therapy (bridging therapy in patients who must suspend antivitamin K drugs for surgical manoeuvres) are supplied by private pharmacies on behalf of the local health authority (LHA).

Aim and objectives To verify the economic and clinical impact of the new regional provisions on our health district.

Material and methods We evaluated LMWH prescriptions (ATC B01AB) paid to the National Health Service (NHS) of our health district (about 164 000 inhabitants) related to the period January 2017 to December 2018. We analysed

consumption in terms of packages, DDD×1000ab/day and spending using an electronic worksheet.

Results The number of treated patients (10 535) decreased by 33.35% from January 2017 to December 2018. Implementation of the new distribution modality of off-label LMWH led to a decrease in the number of packs supplied by the traditional distributor (−68.80%) compared with a marked increase (+428%) in those supplied by private pharmacies on behalf of the LHA. Patients who received prescriptions for heparins off-label tripled in 2018 compared with 2017; the DDD×1000ab/day decreased by 67.50% for traditional distributors and increased by >500% for private pharmacies. This led to an important reduction in costs for the NHS, with a decrease in the cost of LMWH of 72.63% in our territory.

Conclusion and relevance The significant increase in off-label LMWH prescriptions carried out following the preparation of a therapeutic plan made it possible to strengthen the monitoring of prescriptions as the indication for which the drug was suggested must be highlighted by reporting specific codes on the prescriptions. The renegotiation of the prices of drugs provided by private pharmacies on behalf of the LHA is part of a pharmaceutical governance plan that results in a reduction of costs in favour of the patient's health, as demonstrated by our study.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

5PSQ-008 RESISTANCE TO SODIUM HEPARIN TREATMENT OR TREATMENT FAILURE TO THE EQUIVALENT ANALOGUE?

[1]A Iezzi*, [2]I Clerici, [2]J Villa, [2]E Omodeo Salè. *[1]Centro Cardiologico Monzino, Servizio Di Farmacia Ospedaliera, Milano, Italy; [2]Centro Cardiologico Monzino, Hospital Pharmacy, Milan, Italy*

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Background and importance The most frequent cause of heparin resistance is lack of antithrombin (AT). However, there are non-AT mediated heparin resistance cases in the literature but they are less prevalent.

Aim and objectives The aim of the study was to investigate if we had managed the onset of non-AT mediated heparin resistance or a treatment failure to an equivalent analogue during cardiac surgery.

Material and methods A 53-year-old, non-smoker, hypertensive Caucasian man was studied. In December 2013, a heart murmur and mitral regurgitation was found. In July 2014, correction of mitral valve disease by surgery was indicated but surgery was postponed for personal reasons. On 2 May 2019, valvuloplasty was performed and a heparin bolus of 25 000 IU was administrated (Pharepa). Activated clotting time (ACT) was 120 which was not adequate for establishment of extracorporeal circulation.

Antithrombin III and an additional dose of heparin were administered but the ACT value was the same. The procedure was delayed due to further investigation.

On 8 May 2019, haematology counselling was requested. AT levels were within the limits (114%) and factor VIII was at the upper limits (142%). A test dose of heparin Epsoclar was recommended to assess the biological response because of suspected heparin resistance.

Results On 4 June 2019, tests were performed with increasing doses of Epsoclar which showed an appropriate dose–response correlation. On 10 July 2019, after a new Epsoclar dose–response test, valvuloplasty surgery was performed. Systemic heparinisation was carried out with Epsoclar and the anticoagulant action was assessed. Once the correct ACT was obtained, the extracorporeal circulation was implanted with subsequent intervention.

Conclusion and relevance This clinical case showed a lack of therapeutic effect after administration of Pharepa heparin. The results of the dose–response study showed an adequate correlation with exclusion of non-AT mediated heparin resistance. Tests conducted on administered heparin analogues showed that heparinisation failure occurred with Pharepa while verification tests included the use of Epsoclar, also used during the second surgery. Of the 38 adverse drug reaction reports included in the National Pharmacovigilance Network for Pharepa, 16.7% refer to a lack of therapeutic effect of the medicine. All adverse drug reactions were severe and two led to patient death. The case report highlights how differences in response between synthesis analogues can exist and underlines the importance of proceeding with further investigation in cases of diagnostic doubt.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

5PSQ-009 EVALUATION OF DIRECT ORAL ANTICOAGULANT USE IN PATIENTS ADMITTED FOR UPPER GASTROINTESTINAL AND INTRACRANIAL HAEMORRHAGES IN THE EMERGENCY SERVICE

P Miralles-Albors, M Florit-Sureda, A Perez Contel*, S Fernández-Molina, A Barragán Muñoz, M Gómez-Valent. *Hospital Universitari Parc Taulí Sabadell, Pharmacy Department, Sabadell, Spain*

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Background and importance Upper gastrointestinal haemorrhage (UGIH) and intracranial haemorrhage (ICH) cause emergency service (ES) admissions. Glucocorticoids (GC), non-steroidal anti-inflammatory drugs (NSAID), selective serotonin reuptake inhibitors (SSRI), serotonin and norepinephrine recruitment inhibitors and platelet antiaggregants (PAA) increase the risk of UGIH and ICH when taken concomitantly with direct oral anticoagulants (DOACs). Patient age and other comorbidities (gastric lesions, liver disease, coagulopathies and hypertension) also enhance bleeding probability. In addition, some haemorrhages can be caused by a misuse of anticoagulant drugs.

Aim and objectives To describe the prevalence of DOAC use in admissions for UGIH and ICH in the ES. To assess dosing and indication appropriateness of DOACs and to analyse the presence of risk factors such as concomitant drugs and comorbidities.

Material and methods A Retrospective, descriptive, observational study was conducted in a university hospital. We included 14 281 patients admitted to the ES during 2018 and selected those with a diagnosis of UGIH and ICH. Data collected from patient healthcare records were age, sex, diagnosis,