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 levels within the range, 8 (21.7%) had a mild deficit, 11 (28.9%) had a severe deficit and 5 patients (13.2%) had levels outside the range. Eighteen (39.1%) medications received were endocrinology prescriptions (MC) (out of range glucose and triglyceride levels) and administration frequency errors were detected, the most frequent was overdose (13.2%).

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 were hypernatraemia and the earliest hyperglycaemia.

**REFERENCES AND/OR ACKNOWLEDGEMENTS**

No conflict of interest.

---

**PARENTERAL NUTRITION IN A NEONATOLOGY INTENSIVE CARE UNIT: DURATION AND COMPLICATIONS**

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

10.1136/ehyparm-2020-eahpconf.323

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 PN 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.

---

**THE PHARMACEUTICAL GOVERNANCE OF LOW MOLECULAR WEIGHT Heparins: Appropriate ness Analysis**

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

10.1136/ehyparm-2020-eahpconf.324

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
RESISTANCE TO SODIUM HEPARIN TREATMENT OR TREATMENT FAILURE TO THE EQUIVALENT ANALOGUE?

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 administered (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.