- C. Regarding the five oral route group (three hazardous medicines), reconstitution is required for three, which can be done in the PD. The other two are sold in sachets, so we plan to develop a handling protocol.
- D. Directly proposed to prepare them in the PD.

Finally, we encourage implementing safe handling recommendations to achieve the goal of a safety plan for workers.

REFERENCES AND/OR ACKNOWLEDGEMENTS

We acknowledge all pharmacy and nursing staff.
No conflict of interest.

3PC-053 IMPACT OF SERIALISATION ON RECEPTION OF MEDICINES AND ACTIVITY SMOOTHING

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Background and importance In February 2019, EU regulation 2016/161 made serialisation compulsory to improve the safety of medicines. This new regulation caused a major change in our practice of receiving medicines. Indeed, because of the high number of boxes received, we will install a robot to decommission all the medicine boxes.

Aim and objectives To identify the modifications in our reception process with the new regulation.

Material and methods Reception data on our managing software (Copilote) for the last 23 weeks were exported and analysed by Excel.

Results The new regulation will reorganise our process of reception by creating three different flows instead of one. The three identified flows are: serialisable+robot (SR); serialisable+no robot (SNR); not serialisable+no robot (NSNR).

SR products will be handled by the robot whereas SNR will be decommissioned when received. We need to change our analysis method, from lines of product received to number of medicine boxes received, in order to assess the required volume of storage of our new robot. The main flow is SR (71%), followed by SNR (28.5%), whereas NSNR is negligible (0.5%). We observed that the number of drug boxes received was not smooth, with peak activity every 8 weeks.

Conclusion and relevance We identified the major changes caused by the new regulation and changed our analysis method to fit the new regulation. We will now analyse the largest laboratory orders to try to smooth out activity. Therefore, we will change the order calendar. Consequently, we expect an improvement in activity in order to stock the medicine boxes in the robot and reduce the delay in reception.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

3PC-054 SODIUM BENZOATE SUSPENSION IN NON-KETOTIC HYPERGLYCINAEMIA: A CASE REPORT

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Background and importance Non-ketotic hyperglycinaemia (NKH) is a rare inborn error of glycine metabolism characterised by accumulation of glycine in body fluids and tissues,

resulting in neurometabolic symptoms of variable severity. Sodium benzoate is the sodium salt of benzoic acid that conjugates with nitrogen containing glycine to form the molecule hippurate. Hippurate can be excreted by the kidneys, reducing plasma glycine levels. N-methyl-D-aspartate receptor antagonists may ameliorate neurological symptoms although it remains to be established whether they improve long term outcome. Lack of authorised presentations for treatment of rare diseases is an important obstacle that is usually resolved by hospital pharmacy formulations, especially in children.

Aim and objectives The aim was to provide an adequate, stable and well accepted oral sodium benzoate formulation for a patient with NKH, to improve her general status

Material and methods A 4-year-old girl with severe NKH needed oral treatment with sodium benzoate, although there is no standard oral formulation for children. To find an optimal and suitable solution, a literature search was carried out in the National Library of Medicine's (MEDLINE) database, including terms 'sodium benzoate/chemistry', and 'administration, oral' with no other filter. Our national and regional formulation databases were also checked.

Results The patient was initially treated with 16 mL, three times a day, sodium benzoate syrup 112.5 mg/mL, but the volume needed was impossible to swallow by the patient due to her clinical status. Subsequently, 2 g sodium benzoate sachets were given with meals (four times a day) but they were not well tolerated.

We then dispensed a 250 mg/mL suspension in Ora-Sweet with a stability of 90 days. Despite it being a new formulation for our pharmacy service, glycine levels were reduced from 900–1000 µ/L to 500 µ/L over 2 months. Currently, her clinical situation is stable, and the patient receives 8 g/24 hours of sodium benzoate which is well tolerated.

Conclusion and relevance Sodium benzoate oral suspension dispensed with Ora-Sweet seemed to be an adequate solution to NKH treatment in our patient. Although the formulation is a basic operation for hospital pharmacy services, it is essential, especially in children with rare diseases that need orphan drugs.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

Section 4: Clinical Pharmacy Services

4CPS-001 EXPERIENCE WITH THE NEW DIRECT ACTING ANTIVIRAL AGENTS IN A THIRD LEVEL HOSPITAL IN 2018

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Background and importance The new direct acting antivirals (DAAs), indicated in chronic hepatitis C (HCV), show a sustained virological response at 12 weeks (SVR12) >90% in clinical trials, with worse results in patients with genotype 3.

Aim and objectives To analyse the effectiveness of the new DAAs in a real cohort of HCV patients during 2018, and establish if there are differences between genotypes.

Material and methods This was a retrospective observational study including all patients treated with DAAs in 2018. The

variables collected were: age, sex, HCV/HIV coinfection, genotype (G), degree of fibrosis (F), previous treatments, basal viral load (BVL), treatment duration, viral load at 12 weeks post-treatment, adherence and adverse effects (AEs). Effectiveness was evaluated according to SVR12.

Results Ninety-one patients (57.1% men) received treatment with DAAs, with a mean age of 55.6 ± 10.4 years; 20 (22%) were coinfecting with HIV, and 55 (60.4%) had BVL >800 000 IU/mL. The genotype distribution was: 29 (31.9%) G1a, 28 (30.8%) G1b, 1 (1.1%) G2, 15 (16.5%) G3 and 18 (19.8%) G4. Degree of fibrosis: 27 F0–F1, 16 F1, 10 F2, 15 F3, 2 F3–F4 and 14 F4; 7 (7.7%) patients were without data (WD). There were 75 (82.4%) naive patients; 6 had received treatment with DAAs (2 with two different lines).

Treatment distribution was: 36 (39.6%) glecaprevir/pibrentasvir, 28 for 8 weeks and 8 for 12 weeks; 29 (31.9%) elbasvir/grazoprevir, 28 for 12 weeks and 1 for 16 weeks; 23 (25.3%) sofosbuvir/velpatasvir for 2 weeks, 2 with ribavirin; 1 (1.1%) ledipasvir/sofosbuvir for 8 weeks; 2 (2.2%) sofosbuvir/velpatasvir/voxilaprevir for 12 weeks, both after relapse to two previous lines with DAAs.

The response observed was: glecaprevir/pibrentasvir 32 SVR12, 3 WD and 1 treatment suspension because of the patient's poor clinical condition; elbasvir/grazoprevir 26 SVR12 and 3 WD; sofosbuvir/velpatasvir 17 SVR12, 3 WD, 1 died (sepsis) and 2 virological failure (VF) (both G3, 1 F3, 1 F4, 1 relapsed to DAAs); ledipasvir/sofosbuvir: 1 SRV12; sofosbuvir/velpatasvir/voxilaprevir 2 SRV12. Of the total evaluable responses ($n=80$), 78 (97.5%) SRV12 and 2 (2.5%) VF were observed.

Conclusion and relevance Our data confirm the effectiveness of the new DAAs, with SVR12 >95%, and are consistent with clinical trials which show that patients with G3 have the worst SVR12 rates.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

4CPS-002 ANTICHOLINERGIC BURDEN IN CONSTIPATED PATIENT ADMITTED TO AN EMERGENCY DEPARTMENT

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Background and importance Intestinal obstruction and constipation are frequent causes of attendance at the emergency services. Multiple studies have linked a high anticholinergic burden with constipation in elderly patients. However, its impact on patients attending the emergency department has not yet been clearly established.

Aim and objectives To evaluate the anticholinergic burden in patients who come to the emergency services for constipation, as well as its impact on re-attendance to these units.

Material and methods This was a retrospective observational study. Patients who consulted the emergency department for constipation or intestinal subocclusion were included (September 2018–June 2019). Drugs were collected from the electronic prescription. The anticholinergic burden of the medication was calculated using the anticholinergic burden index scale.¹

A multivariate analysis was performed, including in the model parameters with a value of $p < 0.2$ in the previous univariate analysis. The impact of continuous laxative treatment at discharge on the risk of re-attendance was evaluated. Statistical analysis was carried out using Stata V.2.0.

Results A total of 104 patients were included (mean age $77.1 (\pm 14.6)$ years): 47 patients (56.6%) were classified as having a high cholinergic burden, 30 (36.1%) an intermediate burden and 6 (7.2%) a low burden.

In the univariate analysis, the variables associated with readmission at 30 days were age >80 years, women, diabetes, residence destination, dementia and high cholinergic burden.

In the multivariate analysis, age >80 years (0.34 (0.12–0.97)), a high anticholinergic burden (4.21 (1.07–16.5)) and dementia (3.26 (1.11–9.50)) were associated with readmission after 30 days.

Laxative prescription at discharge in the high burden group patients was not associated with a reduction in re-attendance (OR (95% CI) 0.86 (0.48–3.27)). In the intermediate burden group, a reduction in income was observed (OR (95% CI) 0.13 (0.015–0.99)).

Conclusion and relevance A high anticholinergic burden at discharge from the emergency department in elderly patients who consult for constipation was closely related to re-attendance at 30 days. Hence these patients must be considered high risk and specific interventions established.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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No conflict of interest.

4CPS-003 LIRAGLUTIDE IN CHRONIC INTESTINAL FAILURE: OVERVIEW AND CASE REPORT

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Background and importance Chronic intestinal failure (CIF) is a rare pathology, included in the 2013 Orphanet list. Parenteral nutrition is a lifesaving and often lifelong therapy because of nutrients loss and electrolyte and fluids imbalance related to impairment in intestinal absorption and high daily stoma output. Antimotility and antisecretory drugs can reduce faecal output and promote better nutrient and fluid absorption. An impaired hormonal 'ileo-colonic brake' may further worsen imbalance in patients with end jejunostomy short bowel syndrome (SBS-IF). Intestinal adaptation can occur in the remaining part of the bowel through secretion of gut trophic peptide hormones, such as glucagon-like peptide (GLP) 2 and 1. With large enteral resections, GLP secretion is virtually absent, and treatment with GLP analogues could be useful. Liraglutide is a GLP-1 analogue which reduces gastric hypersecretion and slows gastric emptying. In an open label, 8 week pilot study, liraglutide significantly reduced the ostomy wet weight output by 474 ± 563 g/day ($p=0.049$).

Aim and objectives The primary aim of the study was to evaluate the effect of liraglutide on faecal output in patients with SBS-IF and a high faecal output.