NP-003

ANTIBIOTIC RESISTANCE IN COMMUNITY-ACQUIRED PNEUMONIA: A ROMANIAN EXPERIENCE

¹DI Udeanu, ²CE Diaconu, ³AL Arsene, ⁴D Drăgănescu, ⁵M Ghica. ¹Clinical Laboratory and Food Safety Department, Faculty of Pharmacy, University of Medicine and Pharmacy 'Carol Davila', Bucharest, Romania; ²Internal Medicine Department, Clinical Emergency Hospital, Bucharest, Romania; ³Pharmaceutical Microbiology, Faculty of Pharmacy, University of Medicine and Pharmacy 'Carol Davila', Bucharest, Romania; ⁴Pharmaceutical Physics Department, Faculty of Pharmacy, University of Medicine and Pharmacy 'Carol Davila', Bucharest, Romania; ⁵Biostatistics Department, Faculty of Pharmacy, University of Medicine and Pharmacy 'Carol Davila', Bucharest, Romania

10.1136/ejhp-2019-eahpconf.628

Background Community-acquired pneumonia is an infectious disease with a major impact on the population, being an important cause of mortality, morbidity and high-cost healthcare worldwide. The gravity of the infection is variable, but some strains can cause severe infections with increased mortality correlated with host-related factors. The treatment of the disease remains empiric, targeting the most likely pathogens commonly involved.

Purpose The study aimed to identify the most common pathogens involved in community-acquired pneumonia in our hospital, to determine the antibiotic-resistant strains and monitor the patient's evolution in order to identify the main causes of possible treatment failure and increased mortality.

Materials and methods The 1 year study (2017) involved 170 patients hospitalised in the Clinical Emergency Hospital, Bucharest, Romania and diagnosed with community-acquired pneumonia. The study mainly focused on the initiated pharmacotherapy and the situation of prescribing antibiotics: active substances available in the hospital's pharmacy, their associations and changes due to the bacterial resistance.

Results Most of the patients diagnosed with community-acquired pneumonia had cardiovascular and respiratory comorbidities. The patients received empiric treatment based on the clinical scenario, pathogens involved and also the available antibiotics. Our results showed a higher share of pneumonia among males (52%) rather than females (48%), the death rate having a similar pattern: 51% and 49%, respectively. In 35 cases, the antibiogram revealed the most common pathogenic bacteria that displayed resistance to the most commonly used antibiotics. The hospital pharmacist and the clinician involved in the study reported the use of only one active substance in 50% of the cases, two antibiotics, 31%, three antibiotics, 8% and more than four antibiotics (11%) were administered according to bacterial resistance. Cefoperazone was the most commonly prescribed antibiotic, followed by piperacillin and ceftriaxone.

Conclusions Community-acquired pneumonia is a disease treatable in the early stages if it is correctly diagnosed. *E. coli*, *Pseudomonas spp.*, *S. aureus*, *A. baumannii* and *Klebsiella spp.* were the most incriminated etiological agents. Still, social-demographic and host-related factors played a critical role in the outcome of the disease and were correlated with some cases of a failed response to treatment and increased mortality.

REFERENCES AND/OR ACKNOWLEDGEMENTS

None.

NP-004

IMPLEMENTATION OF CLINICAL PHARMACY SERVICES IN LONG-TERM CARE WARDS

A Gyuricza, N Gyimesi, Z Tiszai, A Süle. Péterfy Hospital and Trauma Centre, Department of Pharmacy, Budapest, Hungary

10.1136/ejhp-2019-eahpconf.629

Background Age-related physiological changes and frailty increase the individual variability of drug responses in the elderly. Moreover, a large majority of the elderly population deals with numerous medical conditions, managed by multiple medications often initiated by more than one prescriber. Polypharmacy (concurrent use of more than five chronic drugs) can substantially increase the risk of adverse events and interactions. Long-term care of patients was observed in two departments. The first was a unit of 200 beds, where clinical pharmacy services were launched in 2015. The second, 400-bed ward had no previous history of the presence of clinical pharmacists.

Purpose The aim of this study was to compare the detected incidence of drug-related problems (DRPs) between the wards.

Methods Medication therapies of 46 patients from the Ward #1 and 60 patients from

Ward #2 were assessed. DRPs were classified based on the PCNE V8.01 algorithm. The analysis was carried out by using Microsoft Excel.

Results The mean age was slightly above 80 years in both groups (83 years vs. 84 years, respectively). The average number of concurrent medications was 5.5 and 5.8 per patient in the two observed wards, both qualifying as polypharmacy. Based on PCNE, DRPs at both sites derived from the *possibly occurring adverse drug events* (P2.1) and *any failure of the optimal effect of drug treatment* (P1.2). The possible reasons for these problems include *inappropriate combinations of drugs or drugs and herbal medication* (C1.4) and *wrong drug, strength or dosage advised* (C5.3). Fifty-four interventions were made by the pharmacist in Ward #1, whereas 69 possible, theoretical interventions were noted in Ward #2. A remarkable proportion of these interventions were related to drugs affecting the central nervous system.

Conclusions Clinical pharmacists can take the lead in the follow-up, optimisation and continuous re-evaluation of drug therapies for the elderly. Based on the current findings, well-established clinical pharmacy services can potentially play

a fundamental role in improving patient safety and the quality of life for the ageing population.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Pharmaceutical Care Network Europe: https://www.pcne.org/upload/files/215_PCNE_classification_V8-01.pdf

NP-005

ESTIMATING RENAL FUNCTION FOR DRUG DOSING: EQUATIONS MATTER

MJ Rei, L Fernandes, C Pereira, R Vilaverde, R Rodrigues. Hospital da Luz, Lisboa

10.1136/ejhp-2019-eahpconf.630

Background Suggestions for drug dose adjustments according to renal function are a significant part of pharmaceutical intervention (PI). The most commonly used equations for estimating glomerular filtration rate (GFR) in adults are the Cockcroft–Gault (CG) equation and, more recently, the Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) equation. The latter is a more accurate estimate of actual GFR, and is now recommended for staging CKD. However, regarding drug dosing, there are some conflicting recommendations.

Purpose To assess the impact of the differences between the two GFR estimation formulas (CG and CKD-EPI) in drug dosing recommendations.

Methods PI of the first semester of 2017 aimed at drugdosing recommendations for renal impairment or renal function recovery, were selected from the PI database. The information collected included drug identification and dosing recommendation made (dose reduction/increase/drug suspension). Age, weight, height and creatinine were added and GFR was calculated using the above two equations. Finally, we analysed the impact of the result on the dosing suggestion made, according to the GFR cut-off value for each drug-dosing recommendation.

Results A total of 149 interventions were included, covering 115 patients with a median age of 85 years. The recommendations for dosing alteration or drug suspension focused mainly on antibiotics (Meropenem, Piperacillin/tazobactam, Co-amoxiclav), anticoagulants (Enoxaparin, Rivaroxaban, Dabigatran) and NSAIDs. The mean difference in estimated GFR between the two formulae was 8 ml/min. However, larger differences appear to be associated with older age and body-weight limits. There were 36 (24%) cases of discrepancy between the recommendations to be made depending on the formula used.

Conclusions The choice of the GFR estimation formula may have a significant impact on the recommendations of dose adjustments, namely in the elderly and in extremes of body-weight. Because each formula has its limitations, it is crucial to interpret the result as a range of probability rather than an absolute value, and consider the complete patient context in the decision.

REFERENCES AND/OR ACKNOWLEDGEMENTS

None.

NP-006

EARLY DETECTION OF RETINOPATHY IN PREMATURE INFANTS USING MIXTURE OF EYE DROPS WITH 2.5% PHENYLEPHRINE HYDROCHLORIDE AND 0.5% TROPICAMIDE

¹B Alihodžić-Dilberović, ¹M Mandžić, ²D Zvizdić. ¹Clinical Centre of the University of Sarajevo, Clinical Pharmacy, Sarajevo, Bosnia-Herzegovina; ²Clinical Centre of the University of Sarajevo, Eye Disease Clinic, Sarajevo, Bosnia-Herzegovina

10.1136/epharm-2019-eahpconf.631

Background Retinopathy of prematurity (ROP) is an eye disease that can happen in premature babies. It causes abnormal blood vessels to grow in the retina and can lead to blindness. Birthweight and gestational age are the most important risk factors in the development of severe ROP. Phenylephrine and tropicamide are most commonly used as mydriatic agents for eye examination.

Purpose Using a combination of 2.5% phenylephrine hydrochloride and 0.5% tropicamide drops, in the Neonatal Intensive Care Unit (NICU), help us to discover abnormality in retinal vascularisation in the initial phase of retinopathy. This helps in effective medical treatment and healthy visual function.

Material and methods One-thousand, five-hundred and forty premature infants with a gestational age between 26 and 32 weeks and/or birthweight between 680 g and 2100 g were examined by binocular indirect ophthalmoscopy between 2 to 4 weeks after birth, and followed up until retinal vascularisation was complete. Pupillary dilatation was done with a mixture of 2.5% phenylephrine hydrochloride and 0.5% tropicamide and instilled twice at intervals 1 hour before

examination. The eye drops were prepared in our clinical pharmacy. In order to identify the stage of premature retinopathy, and eye examination was repeated every 7 to 10 days. Depending on the results, the term of the next examination was determined every 7 to 14 days. Once the regression was achieved in two consecutive examinations, the monitoring was done once a month.

Results In this study, a total of 1540 premature infants were screened from 10 May 2017 to 16 May 2018. Maximal pupil dilatation was achieved with a mixture of 2.5% phenylephrine hydrochloride and 0.5% tropicamide. All examined infants had some type of ROP. Some children had spontaneous regression. Four infants had ROP that had to be treated with anti-VGF therapy within 24 to 72 hours.

Conclusion The early detection of ROP in premature and very-low-birthweight infants is crucial. Screening programmes for ROP should be implemented in every NICU and should be carried out by an experienced ophthalmologist and offered to all premature infants with birthweight of ≤ 2100 g or gestational age of ≤ 32 weeks to ensure early detection and timely treatment of threshold ROP to prevent its blinding sequelae.

REFERENCES AND/OR ACKNOWLEDGEMENTS

None.

NP-007

MEDICATION ANALYSIS FOR HOSPITAL PATIENTS WITH RENAL INSUFFICIENCY: FROM DEVELOPMENT PHASE TO STANDARD PRACTICE

B Kastner, W Speckner, J Albrecht. Kliniken Nordoberpfalz AG – Apotheke, 92637 Weiden, Germany

10.1136/epharm-2019-eahpconf.632

Background A previous research project¹ had confirmed that patients with renal impairment and poly-medication had a greater risk of suffering from medication-related problems.

Purpose Our objective was to develop a practicable method of monitoring medication which could be permanently integrated into the everyday routines of a team of pharmacists working at a general hospital without the facilities of a university medical centre.

Materials and methods Glomerular filtration rates (GFRs) were recorded on a daily basis by staff at the clinic's laboratory. This list enabled us to monitor the medication of 425 inpatients with GFR < 40 ml/min between March and June 2017 with regards to: (A) kidney-relevant adaption to renal insufficiency medication (e.g. wrong dosage, contraindications); and (B) significant drug interaction (ABDAMED categories) considered 'substitution necessary', and passed on the results to the doctors. The implementation of such recommendations by the physicians was checked by referring to the electronic patient record and registered in ADKA-DokuPIK.

Results In about one-third of the cases (154 patients, about six per day) the medication to be administered was changed directly or after joint consultation between the medical and pharmaceutical staff. More than half of the recommendations were immediately applied, and in roughly one-quarter of the remaining cases a decision deferred, pending further risk-benefit assessment. Therapeutic intervention (type A or B) was required for approximately 51% of the inpatients with GFRs of 10–30 ml/min, but, in contrast, only recommended for approximately 17% of inpatients with GFRs of 30–40 ml/min.