NP-003

ANTIBIOTIC RESISTANCE IN COMMUNITY-ACQUIRED PNEUMONIA: A ROMANIAN EXPERIENCE

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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

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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

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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.